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Drug & Cosmetic INDUSTRY

February 1944

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Snow Top Precipitated Chalk is an important ingredient in many leading American Dentifrices, Cosmetics and Drugs that are being carried by our fighting men and women to every corner of the globe.

American manufacturers use Snow Top in their formulae because it possesses these important characteristics: high chemical and physical purity, neutral character, extreme whiteness, soft texture, fine particle size and high absorbency.

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Super Light	30-38	40-48	70-90	55-65	.400-0.300	25.0-18.7
Light	20-30	27-40	45-70	40-55	.550-0.475	34.3-29.6
Medium	17-23	19-27	25-45	24-40	.675-0.550	42.1-34.3
Heavy	15-17	15-19	20-25	19-24	.800-0.675	49.9-42.1
Extra Heavy	11-15	11-15	15-20	15-19	.950-0.800	59.3-49.9

Snow Top Precipitated Calcium Carbonate ★ Abietic Acid ★ Nuchar Activated Carbons ★ Liquid Caustic Soda ★ Chlorine ★ Lignin ★ Liqro Crude Tall Oil ★ Indusoil Distilled Tall Oil ★ Tall Oil Pitch ★ Sulphate Wood Turpentine

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Drug & Cosmetic INDUSTRY

FEBRUARY 1944

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The Drug and Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer; Thomas R. Farrell, Vice-president and Secretary. Publication Address, 28 Renne Ave., Pittsfield, Mass., U. S. A. Editorial and General Office, 101 West 31st St., New York, 1, N. Y., U. S. A. Subscription price—$2.00 a year, in advance, Foreign Countries, $3.00. Single copies, 25¢; Back issues 50¢. Entered as Second Class Matter, January 1, 1928, at the Post Office at Pittsfield, Mass., under the Act of March 3, 1879.

Contents Copyrighted 1944 by Drug Markets, Inc.

Printed by Sun Printing Co., Pittsfield, Mass., U. S. A.

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Yet American fighting men must enter jungles and other insect-ridden spots of the earth and live in them. But these men do not go unprotected. They have new weapons in the fight against insect-borne disease. One is an insect repellent, more powerful than any known before, developed to make insects keep their distance from human prey.

This product is the result of a cooperative research program by CARBIDE AND CARBON CHEMICALS CORPORATION and NATIONAL CARBON COMPANY, INC., another Unit of UCC, in which more than 600 chemical compounds — many of them unknown before—were synthesized and tested.

Other forms of protection are anti-malarial substances . . . superior to natural quinine in some ways . . . now being made from synthetic organic chemicals. Several of these chemical raw materials are among the 160 developed and made commercially available by CARBIDE AND CARBON CHEMICALS CORPORATION.

Now that sources of quinine, used in combating malaria, are practically all in enemy hands, these developments are of particular importance. Together with the accomplishments of other organizations, they will help reduce the incidence of malaria and other insect-borne tropical diseases . . . and thus aid in keeping American fighters healthy and effective.

Such research has contributed to advances in science which have helped bring better health to millions. Greatly intensified by the needs of today, it promises much for the future.

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PRODUCERS OF SYNTHETIC ORGANIC CHEMICALS

INSIDE NEWS

FEBRUARY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1944

Industrial Revolution in Latin America May Affect U.S. Chemical and Drug Exports

STEEL MILL AT VOLTA REDONDA, BRAZIL, is typical of Latin America's recent expansion in steel-making capacity. Mexico, Argentina, Chile, Peru, Colombia have similar steel projects planned or under consideration. Shortage of coking coal is being partly met by low grade Brazilian deposits which can be used if processed and mixed with high grade imports.

With most long-range observers placing their trust in an expanded export trade to help cushion the shock of diminished war production in the U. S., a review of the increasing industrialization of Latin America is important to every U. S. business man.

War conditions are largely responsible for increased production in most cases, such as the cotton-textile and shoe industries, foodstuffs, rubber, chemicals and drugs. Wartime loss of outside supply sources . . . loans, technical aid and machinery from the U. S. to assist Latin America in supplying United Nations' war needs . . . are the principal factors.

To what extent will Latin America's new role as industrial producer modify U. S. export plans? The answer can only be found in a close analysis of Latin America's capacity to produce specific products, and to expand the demand for them.

A leading publication has published extensive articles on industrialization below the Rio Grande. There is space here for only a brief review of certain aspects of the subject.

The chemical industry, for instance, may find that after the war potential Latin American customers in textile, synthetic fibre, tanning, dye, soap and paper plants will be satisfactorily served by chemicals produced in Latin America itself. Raw materials are available: Chilean nitrates, arsenics of Mexico and Brazil; sodium carbonate and many wild and cultivated vegetable products which have chemical value.

Remembering that chemical development is only one aspect of Latin American industrialization, the following facts are significant: Brazil's aluminum sulphate production is now double its pre-war total; more than 100 chemical and pharmaceutical items have gone into production in Sao Paulo since January 1941; Argentina is making plans to make power alcohol from grain crops and wood by-products; Venezuela is working its own sodium bicarbonate deposits, to supply its own textile mills, soap plant and glass factory; a new sulphuric acid plant in El Salvador is supplying that country, and Honduras and Nicaragua as well; Peru has begun production of white arsenic, copper sulphate and other chemicals.

As far as drugs are concerned, scarce imports of perfumes, toilet waters, lotions, soaps and many pharmaceuticals has stimulated Latin American production. Argentina now manufactures over 90% of all medicinal and pharmaceutical products sold there.

On the other hand, while it is possible to exaggerate the glowing possibilities of U. S. exports to Latin America after the war, there are many products in chemical and drug categories which are not likely to be produced in Latin American plants. And it must be remembered that most of Latin America's increased industrialization benefits U. S. suppliers of capital goods, on which this industrialization depends, and will tend to stimulate a higher standard of living and increased purchases of other exportable products.

Furthermore, Latin American resources are still predominantly agricultural, and, up to date, the shortage of coking coal works against the development of heavy industry. Independence of iron and steel imports has never been achieved and is barely possible in only a few Latin American countries.

In Washington and elsewhere, some planners anticipate that Latin America may take the place of the Orient as a supplier of certain products, such as rubber and quinine, formerly shipped the long Pacific route.

In general, and in spite of increased industrialization, there will be many opportunities for the sale of finished products below the Rio Grande. In taking advantage of them, three factors remain decisive: political stability, credit, and the diplomatic attitude of U. S. traveling personnel. These three are intimately related; and it cannot be denied that a certain degree of industrial autonomy in Latin America will go far toward removing the political and psychological, as well as the purely economic barriers which occasionally have threatened satisfactory trade relations. 556

Pasteurized Apple Juice

A method of preservation involving pasteurization marks a distinct advance in the preservation of apple juice. The process retains much of the original aroma, flavor and appearance of the freshly-pressed apple juice. 557

Vineyard Restoration

An experiment with a run-down vineyard of Concord grapes has increased yields 1400 pounds to the acre by the use of fertilizer at a determined rate. In a five-year experiment, equally good results were obtained whether the element was supplied by measured applications of ammonium sulphate or sodium nitrate to the acre. 558

Having Label Trouble?

War-time demands on packaging and canning for overseas shipment have brought ever-increasing problems. Waterproof labels and adhesives have come out of the laboratories and recently a newcomer has been announced by a national group. These welcome newcomers may be applied by standard can labelling machinery. In tests, they withstood seven days in a predetermined sodium chloride solution at room temperature. After air drying, the labels were somewhat wrinkled but were

NATIONAL CAN

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firmly adherent. The additional cost of waterproof labelling is slight, an estimate being available on a case basis.

The adhesives have added qualities of being non-staining and corrosion proof. A hot melt pick-up resin is also available for spot labelling, this having similar properties. 559

Protein Recovery

Protein may be recovered from vegetable material by adjusting the acidity of an aqueous solvent to the isolectric point of the desired protein and selectively heating to bring the protein into solution. Then the solid material is removed and the hydrogen ion concentration of the solution adjusted to precipitate the protein. 560

Salmon Increase?

Restoration of the Fraser River salmon fisheries to their former great productivity is planned by the International Fisheries Commission. Details of the plan have not been revealed, but they apparently involve a new arrangement at Hell's Gate to enable the fish to get past the boiling rush of water in the canyon, an obstacle created in 1913 when the side of the cliff slid into the gorge. A fish ladder is there now, but it is of use only when the river is at a certain level. 561

Flowmeter

Newest and most advanced phases of the principles and practices of flowmeter engineering are available. If you've a problem in liquid measurements, you can learn for instance of a new and more accurate method of correlating temperature expansion data on petroleum oils; a quick method of correcting tap locations, a short-cut method of correcting for viscosity. If it's pulsating gas flow measurements or working equations and tables for moisture and supercompressibility, we'll tell you where you can get information for use of men in the field as well as by technical institutes. 562

Electronic Inspector

Industry's response to the introduction of a new rayproof, shockproof, self-contained X-ray unit has indicated a strong war-time interest in this electronic inspection device. If you're interested in its industrial uses, including inspection of metals, plastic and hard rubber moldings, food and pharmaceutical products for detection of foreign materials and the like—or if it's inspection against sabotage or theft, we'll tell you more. 563

Shipping Case Printing

A canners' shipping case printing machine automatically impressing identification (in one or two colors) on both ends of the case, after the cases have been filled and sealed, is available to fill a new and urgent need in packaging of fruit and vegetable containers. 564

Technical Topics

WOOD LIGNIN—A new industry, based on wood lignin, is a stray postwar possibility and is based on an experiment where lignin, placed in a bomb with hydrogen and exposed to great pressure, turned the brown powder (lignin) to a transparent liquid. So far this liquid has been fractionated into wood alcohol and four compounds, all new to the chemical world. 565

DIATHERMY IN INDUSTRY—Diathermy, the artificial fever machine which heats interior human tissue without burning the skin, is being applied in industry to metal for welding and annealing; in wood for heat curing of resins in plastic wood. 566

DYE AS LIFE SAVER—A dye used to spot leaks in water systems is now used to save airmen shot down over the ocean. A waterproof package of this dye, attached to the life jacket and ripped as a flyer lands in the water, soon makes a brilliant color patch visible several miles away. 567

ACTION IN REVERSE—Plant hormones may work in opposite directions—prevent the formation and opening of buds on potatoes—making possible storage for indefinite periods or timing the opening of buds on fruit trees to avoid frost injury. 568

HYDROQUINONE—Manufacture by an improved electrolytic method is claimed in a recent British patent. 569

SYNTHETIC MENTHOL—A new process for the manufacture of synthetic menthol at a cost lower than that for the natural product has been developed. Its development could make the United States independent of imports from Japan which before the war used to amount to about 500,000 pounds annually. 570

NEW ANAESTHETIC—Propethylene is the name applied to what was recently declared to be a new and effective anaesthetic. It is said to be three to five times more powerful than the usual ether, and safer in use. 571

DETERIORATION HALTED—Dried egg deterioration during storage at high temperatures is retarded when certain carbohydrates are added to the pulp before drying. It was also found that the addition of carbohydrates to the egg pulp before spray-drying greatly increased the aerating power. 572

JAP BEETLE—Ethylene dichloride in the form of an emulsion prepared from an emulsifiable mixture of this compound has been demonstrated to be an effective insecticide for the immature stages of the Japanese beetle. Immersion of plants for 10 seconds in an emulsion prepared at the rate of one gallon of the emulsible mixture to one hundred gallons of water resulted in mortality of all larvae. 573

DAIRY LICE — A satisfactory replacement for rotenone in the control of lice on dairy cattle has been found. A dust, composed of one part of this replacement seed to ten parts of wettable sulfur can be relied upon to control all species of cattle lice. A second seed, one part to ten parts wettable sulfur, has also been proved very effective. 574

TEXTILE PRESERVATIVE — Quaternary ammonium salts have been introduced as effective mildew-proofing agents for textiles. This material is declared to be particularly resistant to chaetomium globosum and metarrhizium. 575

HYPERTHYROID?—Thiourea has been shown to be effective in the treatment of hyperthyroidism. The investigations revealed that compounds having thiourea in their make-up, or that simple compound itself, prevent the thyroid from synthesizing the undue amounts of thyroxine. 576

PURPLE IDENTIFICATION—Mercury fulminate dermatitis incidence in the explosives industry is reduced by the use of a special liquid soap combination. The soap is ordinarily orange in color, but on contact with mercury on the skin changes rapidly to a deep, easily recognizable purple. 577

MILL SCALE OXIDE—Ferric oxide of high purity can be produced from iron ore or mill scale, based upon the intermediate preparation of ferric nitrate, it is claimed in a recent British patent. The process depends upon the reaction of nitric acid with the oxide or sulphide ore, and thereafter decomposing the ferric nitrate to ferric oxide and nitric acid by heating. 578

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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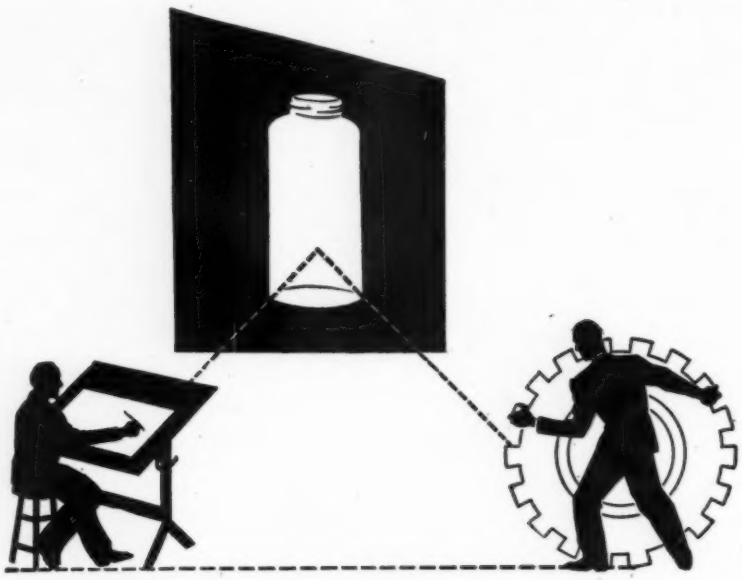

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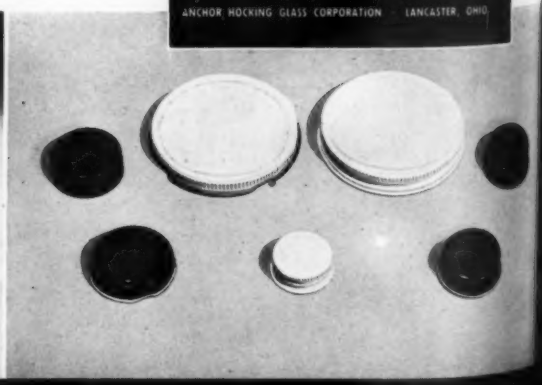

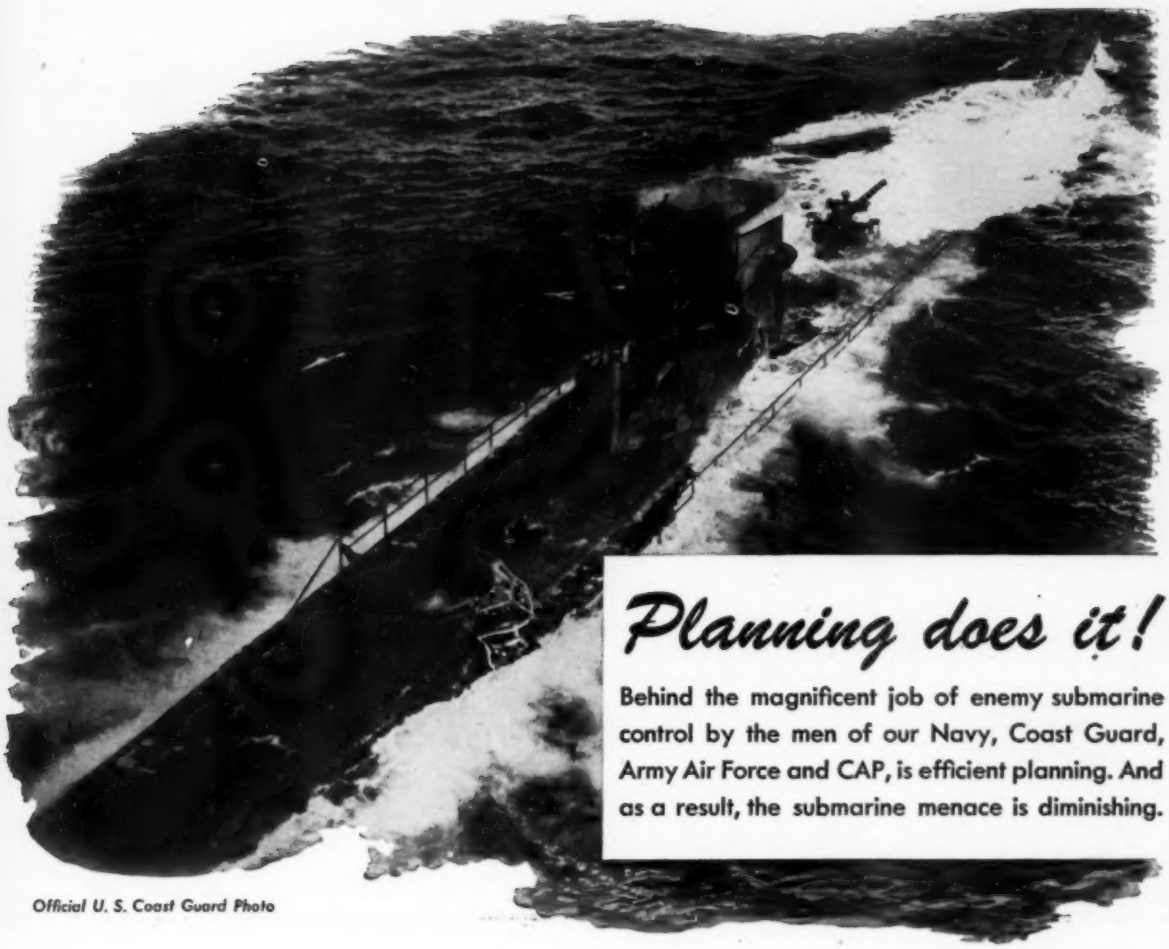

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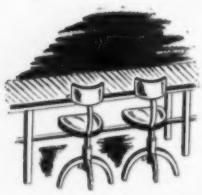

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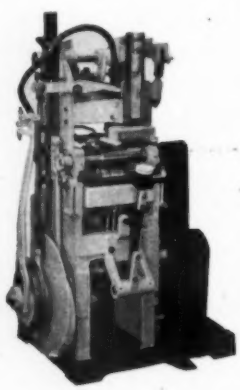

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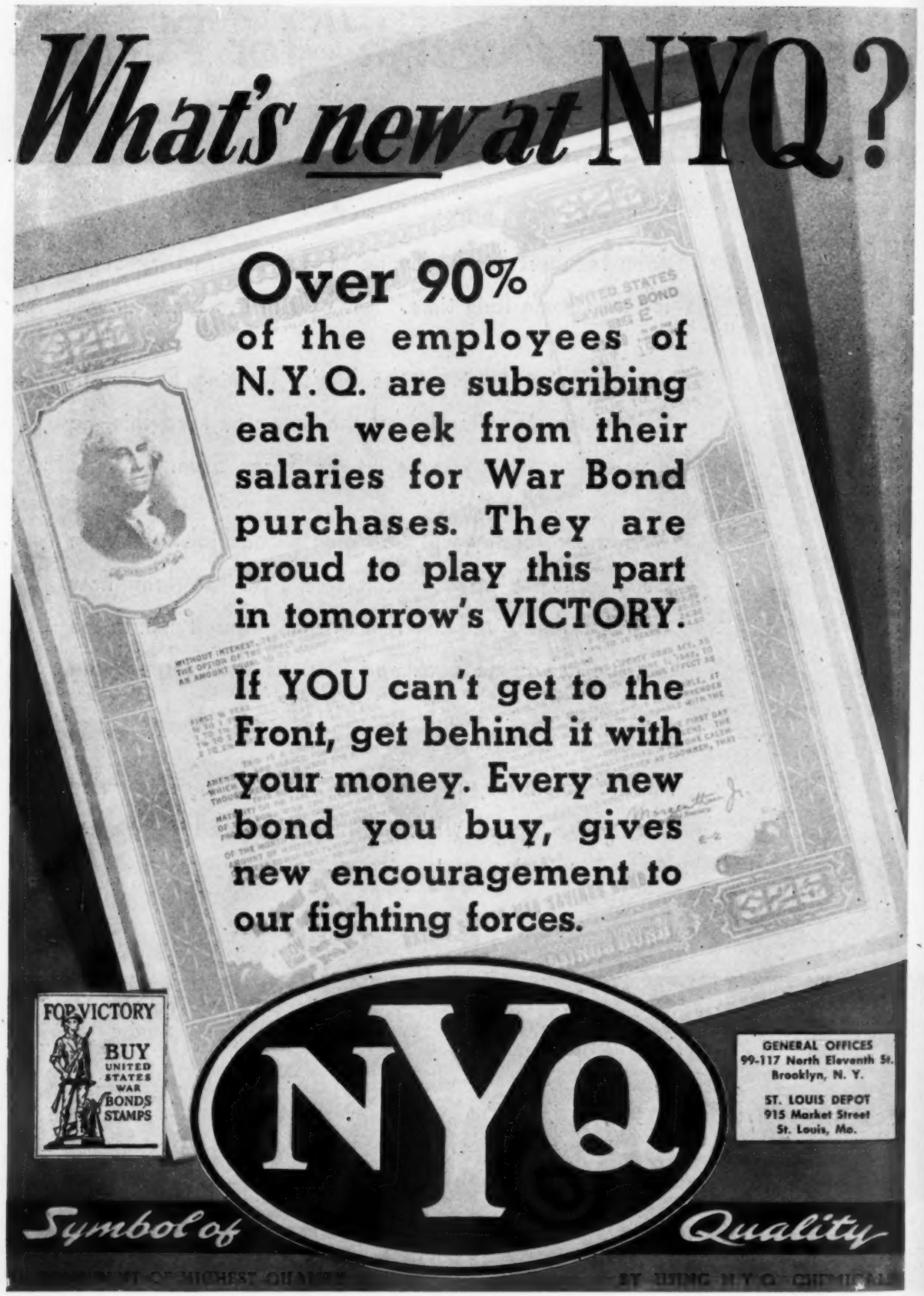

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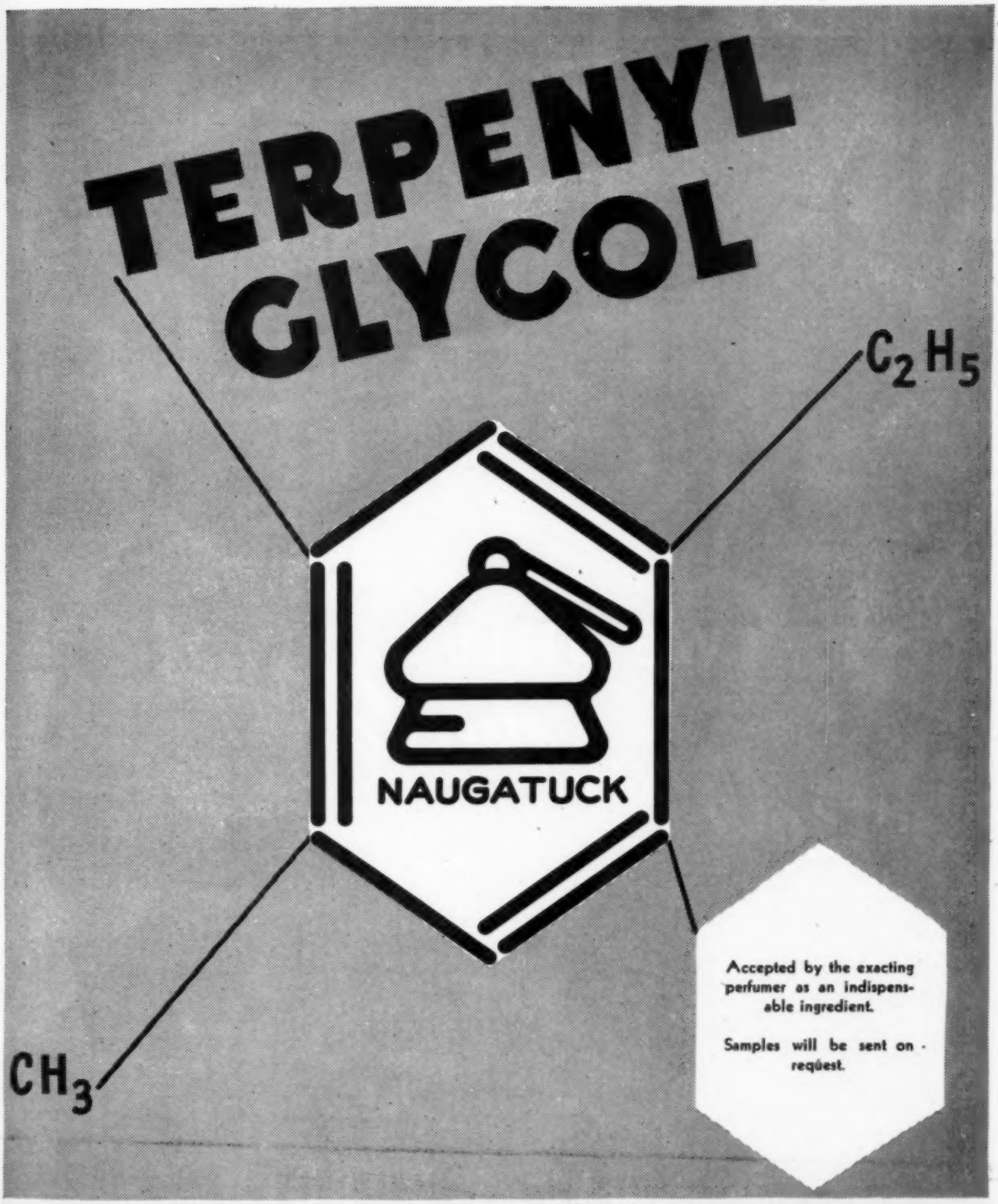

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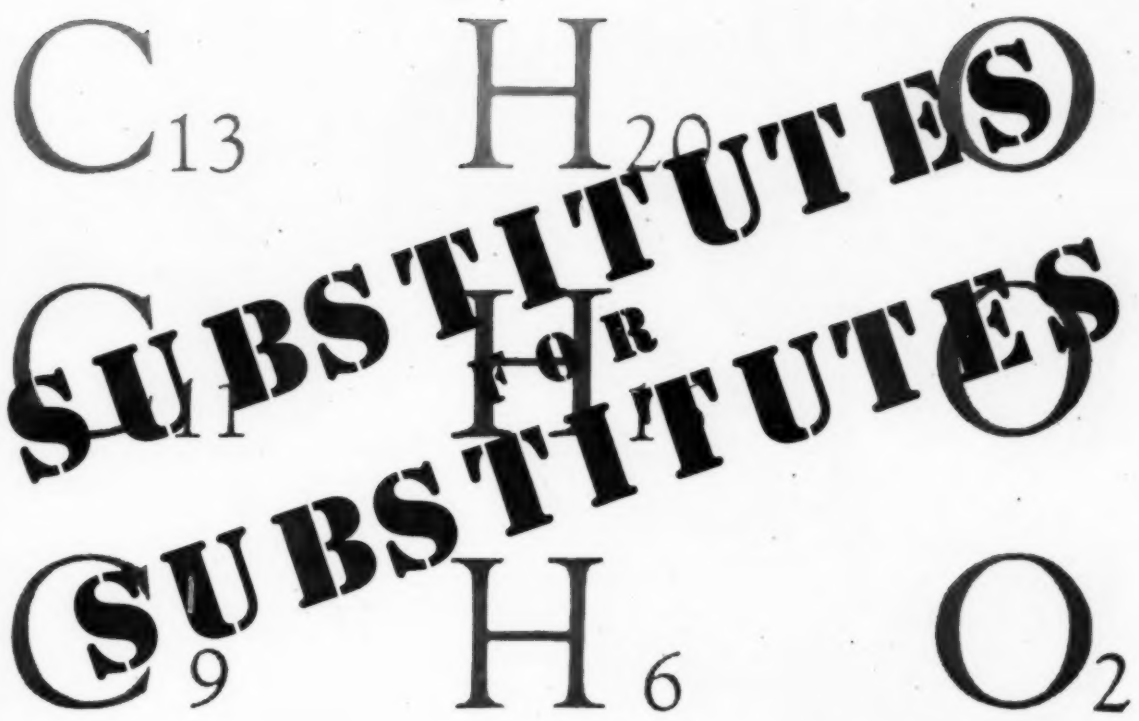

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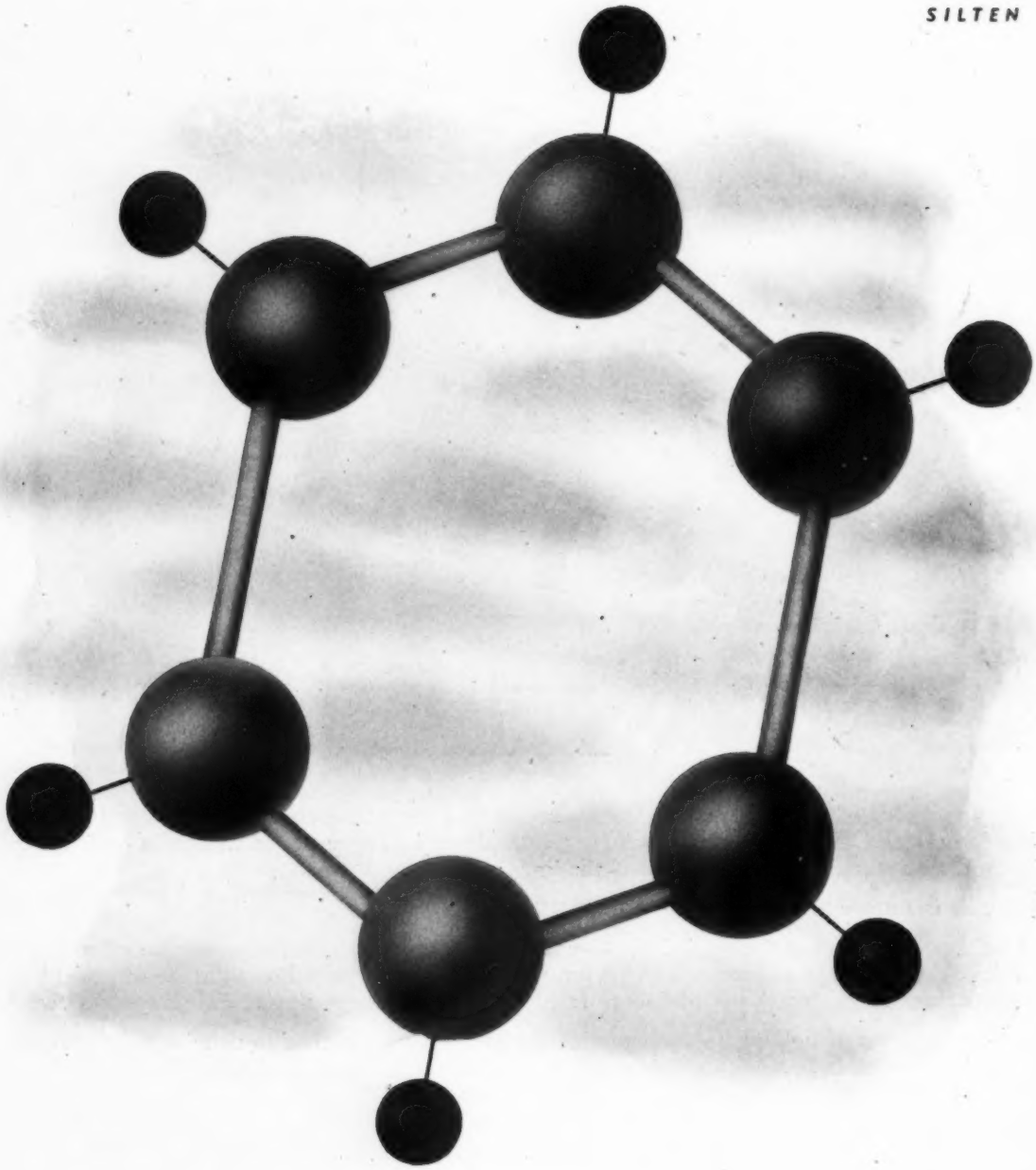

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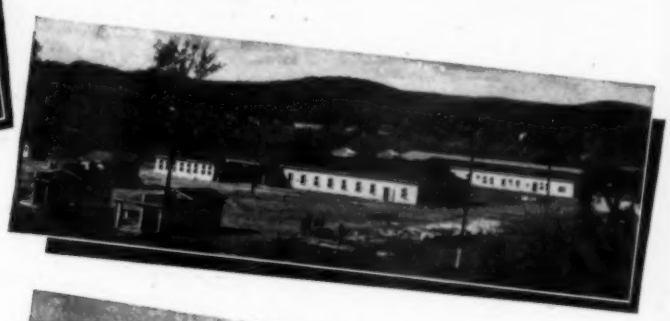

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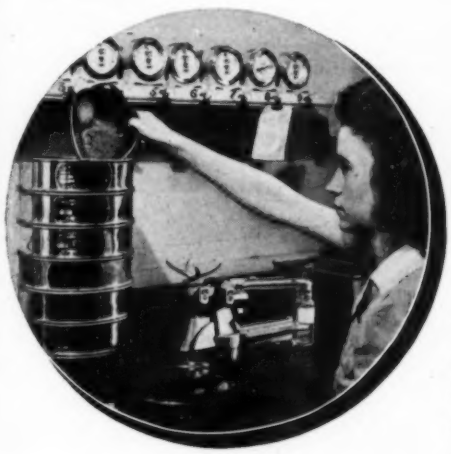

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Pharmacists for the Future

THE appalling aspect of the future of pharmacy as the result of the recent action of Selective Service which will not allow any more students of pharmacy beyond those that graduate by July 1 next has greatly increased the problem facing this industry. It is said that the pharmacy colleges of the country for the decade prior to the war had 8,000 to 9,000 students with some 1,600 graduates per year. When this phase of Selective Service becomes fully effective, it is estimated that there will be in all the colleges of pharmacy in the country some 1,300 students, 1,100 of whom will be women, and the other 200 of whom will be men classified 4F under Selective Service.

What the answer is, no one knows. All sorts of pressure has been brought to exempt pharmacy students from the requirements that college boys of draft age who are not graduated by next July 1 will not be allowed to graduate. However, the ruling applies to all students, and the ruling was made for the reason that it was thought unfair to draft fathers while boys of draft age were allowed to stay in college.

But far and beyond the acute problem that is presented today, is the future that pharmacy will face after the war. It is still a question whether many men will be attracted to pharmacy in the post-war period when all industry will be moving at top speed for many years in an attempt to replace those things curtailed or destroyed by the war all over the world.

The problem is one that most surely belongs in the laps of the pharmaceutical manufacturers, although the medical profession and the public are equally involved in its solution. Pharmaceutical manufacturers must have pharmacists now only for employment in their own establishments in production, detailing, and sales. But the hospitals must have pharmacists, and the doctors and the public must have drug stores operated by qualified pharmacists.

Racemic Menthol and the U.S.P.

DUE to the tightness of menthol supplies, there has been much talk of racemic menthol being recognized by the U. S. P. Recently this type of menthol was permitted to be used as a denaturant in certain formulas of specially denatured alcohol. With reference to its acceptance by the U. S. P., the following statement has been made by the U. S. P. Revision Committee:

"*Racemic Menthol*—This form of menthol has not yet been admitted to the U. S. P. This is mainly due to the fact that the only source of raw material until recently was cresol and this was not available due to absolute priorities for its use in making plastics for air planes.

"The U. S. P. has followed the policy of accepting replacements for U. S. P. items when the new material was acceptable and when it was available. Since racemic menthol has not been available up to this time there was no justification for its recognition. There is now promise of its production from turpentine as a basic source and when this becomes an accomplished fact and satisfactory tests on this material are developed to exclude other undesirable menthol isomers, the racemic variety of menthol will likely be given U. S. P. recognition."

A well-known trader in menthol, who had imported the product from Japan for a large number of years, looks upon the future of menthol as very dark from a trading angle. "If racemic menthol is adopted by the U. S. P., as appears most likely," he said, "menthol will be selling at $1.00 a pound some time in the future." "After all," he continued, "there will be plenty of meta-cresol available when the war is over, and the manufacture of menthol will be a straight chemical process with plenty of the necessary raw materials available at a low price. What else can one expect as the result of this but a very low price for menthol? I predict that it will sell for $1.00 per pound, and that Japanese menthol will be a thing of the past."

Aluminum Tubes

NOW that aluminum is allowed to be used for the manufacture of collapsible tubes under the recent amendment to the WPB collapsible tube order, the Aluminum Company of America are resuming manufacture of these tubes at the Edgewater N. J. plant of the company. The company states that the manufacture of tubes at Edgewater and the blanks that the company will supply to other tube manufacturers "will be determined by the amount of competent help which can be obtained without diverting manpower from essential production."

The company is asking users to hold their immediate demands for aluminum tubes to a minimum and to place their orders subject to mill schedules determined by the needs of the war program.

Milk Sugar for Penicillin

FOR the production of penicillin it is first necessary to grow the mold, Penicillium notatum, which is grown in a culture of lactose, or milk sugar. Because of the large plants coming into production of penicillin, the demand for milk sugar for this purpose is increasing sharply and will continue to increase for some time ahead. In 1942 approximately seven and one-half million pounds of milk sugar were used in this country—about 3.2 million pounds in baby foods, 2.4 million pounds in pharmaceuticals, and the remainder in various food and non-food products. But in 1944 it is estimated that five million pounds will be required for the manufacture of penicillin alone, and total requirements are estimated at somewhere between 12.5 million pounds and 14 million pounds.

In an attempt to meet this demand new processing plants are being installed to give a total 1944 production of 10.5 million pounds, leaving a deficit of at least 2 million pounds. The Food Distribution Administration has requested the National Research Council to investigate the various uses of lactose and establish a list of priority uses. Lag in lactose production is expected to be only temporary, however, since potential sources have not been used to their fullest extent. In 1942 about 1,365,000,000 pounds of whey were a by-product of casein manufacture. On the basis of a 2½ per cent yield of U. S. P. lactose, the potential supply from this source of whey is about 35 million pounds, which is considerably more than twice the estimated requirements for 1944. It is also possible that quantities of unused whey resulting from cheese manufacture could be used for recovery of lactose. This recovery process is simple and could be set up in cheese factories that do not already have outlets for their whey. Also there is the possibility that some other culture medium with properties similar to lactose might make its appearance, and then all this lactose would not be required for penicillin manufacture.

Rhubarb in the U.S.P.

THE shortage of Chinese Rhubarb due to war conditions has caused requests to the U. S. P. Revision Committee to recognize another variety of rhubarb known as "Indian Rhubarb." With reference to these requests the Revision Committee has the following to say:

"Considerable study has been made of this proposal and of the product and the Therapeutics Subcommittee came to the conclusion that, since Rhubarb had been declared a non-essential drug and since there was, in their opinion, inadequate evidence of the suitability of the Indian variety to replace the long-used Chinese Rhubarb, that U. S. P. recognition should await more complete clinical and pharmacologic evidence of its value. The Therapeutics Subcommittee will endeavor to obtain such evidence and submit their recommendations concerning not only Indian Rhubarb but also the importance of Chinese Rhubarb as a U. S. P. drug as a part of the study of Scope for the next Pharmacopoeia. There is no likelihood that U. S. P. XIII admission or deletion could become effective until the new Pharmacopoeia becomes official, a date now expected to be about the middle of 1946.

"In the meanwhile the Food and Drug Administration has permitted the importation of some stocks of Indian Rhubarb which have been held at the port, but it is admitted only as 'Indian Rhubarb' and must be sold as such and cannot be used where Rhubarb is required except under its own name and with a declaration as to wherein it differs from U. S. P. Rhubarb."

Vitamin Demand and Prices

MANUFACTURERS of synthetic vitamins are continuing to reduce the prices of these products even though Government and civilian needs for them are taxing the capacity of manufacturers to the limit. These price reductions are consistent with the policy of the leading manufacturers who have always passed economies on to the consumers as processes were perfected and plants amortized. The largest Lend-Lease order on record was recently placed for 700,000,000 tablets composed of thiamine hydrochloride, riboflavin, ascorbic acid, niacin, and vitamins A and D. Also military requirements have increased sharply for ascorbic acid for inclusion in lemon preparations and Ration K.

Raw materials for the manufacture of thiamine hydrochloride and riboflavin are in plentiful supply, but niacin raw materials are critical due to the fact that the synthesis of niacin requires quinoline which is also in heavy demand for other synthetic organic processes.

Price reductions in the vitamins over the past year have been most striking. The total of the reductions in thiamine hydrochloride for the past year up to January 31, have totaled $170 per kilo, bringing the price down to a new low of $200 per kilo. Riboflavin started the year 1943 at a price of $650 per kilo, to be reduced to a new low of $280 per kilo on January 31, 1944, after numerous reductions totaling $370 per kilo. The price of niacin was cut $1.00 per kilo on January 3, 1944 to a price of $8.00 per kilo, only to be cut $1.00 per kilo to a new low of $7.00 per kilo on January 31. Pyridoxine hydrochloride, or vitamin B_6, one of rarer products, was cut on January 20 to a new low price of $1,000 per kilo,—a cut of $250 per kilo.

Vitamin A Allocation

CIVILIANS in this country are to get sixty-three per cent of the available vitamin A during 1944, according to the War Food Administration which is in charge of allocation of this material. This is about the same amount that was made available for civilians during 1943. The quantity expected to be available during 1944 is estimated at 138,000,000,000,000 U. S. P. units, of which civilians will receive 88,000,000,000,000 units. Since men in Armed Forces get most of their vitamins through a nutritionally balanced diet, only about 5,000,000,000,000 units, or four per cent of the total will go in this direction. Exports and shipments to our territories, Allies, other friendly nations, and a contingency reserve for emergency war purposes require about 46,000,000,000,000 units, or thirty-three per cent of the supplies. About 40,000,000,000,000 units of the civilian allocation will go into pharmaceutical preparations, 8,000,000,000,000 units into food enrichment, and the rest for feed enrichment.

Argentina's Drugs

ARGENTINA'S exports of chemicals and pharmaceuticals rose from 1,000,000 pesos in 1939 to 27,500,000 pesos in 1942, while exports of medicinals alone have been running at 10,000,000 pesos or better, compared with 360,000 pesos in 1939. Furthermore, Argentina's imports of chemicals and pharmaceuticals have increased only slightly to a total of 60,000,000 pesos in 1942, while imports of medicinals have declined from 5,200,000 pesos in 1939 to 2,800,000 pesos in 1942. The increase in foreign trade reflects the increased local production of medicinals which had a sales value in 1941 of 60,000,000 pesos,—almost double that of 1939.

What Argentina is aiming at in this field is indicated by a statement of "El Mundo", Buenos Aires newspaper, which said that Argentina "is capable of supplying all the drug imports of the other American republics." Since prewar imports of the twenty countries totaled more than 100,000,000 Argentine pesos, and will probably increase in the postwar period, this would seem like a large order for the Argentine drug industry, even if war expansion is considered.

Alcohol from Sulfite Liquor

WPB has approved plans for manufacture of alcohol from waste sulfite liquor at the plant of the Puget Sound Pulp & Timber Company in Washington. The proposal was placed before the Defense Plant Corporation for financing arrangements. The company proposes to make alcohol at an approximate cost of 20 cents per gallon, as compared with a price of 85 cents per gallon that some of the alcohol needed in the war effort is said to be costing the Government. Recently the Government also approved plans for constructing a plant at Eugene, Oregon, for the production of alcohol from sawdust and waste timber. Therefore, it appears that the production of alcohol from wood pulp is to have a real trial at long last. If the method is successful, it might be possible that the Government will obtain all the alcohol needed for the war effort with some left over for increased allocations for this industry. At any rate, this newly tried method might relieve the strain on our grain supply, and if this is relieved, we might have feed enough to stop our meat supply from declining further.

Synthetic Insecticide

A SYNTHETIC insecticide, dichlorodiphenyltrichloroethane, called DDT for short, will be produced in tonnage quantities at a new half-million dollar plant to be built by Du Pont at Government request. This material will be devoted entirely to Army and Navy use as a means of controlling typhus. A single application of the product dusted on the clothing gives protection from disease-carrying vermin for one month.

The chemical was first synthesized 70 years ago by a German chemist, but its first use as an insecticide was patented by a Swiss firm, Geigy, Inc., in 1939. Previously employed largely as a moth repellent and a plant lice control, the U. S. Department of Agriculture discovered last May its utility against body lice. Du Pont's Grasselli Chemicals Department is licensed by Geigy & Company, New York, for manufacture and sale of the product.

In addition to the production by Du Pont, Merck & Company, are expanding their facilities for production of DDT to large scale production at the request of the Government. Also Hercules Powder Company is converting to DDT production, at the request of the Government, facilities formerly used for the manufacture of explosives.

Sister Kenny and the A.M.A.

SISTER Kenny seems to have run into trouble with organized medicine and might have to return to Australia. She probably realizes now that, in this country at least, a doctor is a doctor and no one else has any standing when they profess to know anything about the treatment of diseases. Then after all, Sister Kenny is a trained nurse, and there has always existed somewhat of a feud between doctors and trained nurses, especially when the nurses intimated that they knew more than the doctors in certain respects.

T.G.A. Scientific Meeting

THE scientific meeting of the Toilet Goods Association held recently was a huge success and points the way for real progress in a real understanding of the scientific facts surrounding the preparation and use of cosmetics. A total of 276 people were registered at the one day session, and close attention was given to the papers by those who attended. Naturally, many manufacturers of cosmetics will jealously guard much information which they believe to be trade secrets, but there are so many subjects that are general to the industry about which more and accurate information is desirable, that this scientific section should be able to accomplish a great deal for real advancement in cosmetics.

No More Alcohol for Drugs

THE tightness of the alcohol supplies as the result of insufficient production facilities and raw materials to increase the supply sufficiently to cover synthetic rubber requirements is putting drugs manufacturers in a bad spot. The tremendous demand for alcohol containing preparations as the result of the influenza or grippe epidemic has depleted stocks of manufacturers to a very low point. But all that the WPB would grant the manufacturers to relieve this situation was an increase of 25 per cent for their quarter quota. Much more than this quantity has been used up and stocks cannot be brought back to where they normally are.

Ecuador Gives Quinine

ECUADOR, smallest of the South American west-coast republics, has become one of the biggest Western Hemisphere sources of quinine and totaquine. The U. S. Foreign Economic Administration has established laboratories for quick analysis of cinchona bark at Quito, the capital of Ecuador, and at Cuenca, and has set up purchasing stations in the richest areas of supply. Now FEA, in co-

operation with Ecuador authorities, is seeking further expansion of production through organization of exploratory parties to locate stands of cinchona trees best suited to commercial production.

Quinine in Costa Rica

TO FURTHER develop our needs of quinine, the Inter-American Institute of Agricultural Sciences has arranged for the planting of approximately 100,000 cinchona seedlings in Costa Rica. These plantings are part of 2,000,000 seeds taken out of the Philippines in a Flying Fortress just before the fall of Bataan. The seedlings are said to be of the high-yielding Ledgeriana type developed in the Far East from cinchona stock originally brought from South America.

Honduras and the Dominican Republic have also signed the convention opened in Washington by the Pan American Union in an effort to provide for a permanent organization of the Institute. This means that only eight Latin-American countries are not signatories.

Insulin from Cod Fish

A REPORT from London states that at the Fisheries Research Station in Bergen, Norway, investigations made into the possibility of obtaining insulin from the cod have proved successful, the resulting product being as effective as ordinary insulin.

A Tip on Magnesium

AMONG the latest news given in telegram style, a leading New York financial journal states: "The magnesium situation is on a safe basis, witnessed by the fact that consumers no longer are being asked to save tooth paste and shaving cream tubes."

Figure that one out if you can, we give up!

Vitamins at Breakfast

"A SURVEY on Breakfasts" made by the Home Makers Guild of America for Owens-Illinois Glass Company, gives the following on the use of vitamins. Commercially prepared vitamins were used by 40.5 per cent of the people surveyed and not used by 59.5 per cent. These vitamins are consumed at breakfast by 78.8 per cent, at dinner by 10.8 per cent, at lunch by 4.0 per cent, and at other times by 10.4 per cent. Breakfast foods are selected by 68.8 per cent because they are "vitamin enriched," and they are not selected for this reason by 31.2 per cent.

Fine Chemicals in France

THE shortage of pharmaceutical chemicals in France is becoming acute says a report from London which further states that such substances as bismuth salts are being replaced by kaolin since bismuth salts can be obtained only on prescription. One large Paris pharmacy is said to be receiving only 50 grams of iodine and 2½ kilos of soft paraffin every three months.

Valves Released

A FIFTY-PAGE catalog of 30,690 new surplus steel valves of various sizes and types has been published for the use of war contractors or others. The list is published by the Surplus Program Section of the WPB Redistribution Division in cooperation with the Metals Reserve Company. It gives the type of valve, catalog specifications, manufacturers' names, and state location. Persons needing steel valves should contact their nearest WPB field office, or they may learn the location of the valves through the Surplus Program Section of WPB, 155 East 44th Street, New York.

Planning for Childbirth

"QUEEN'S Charlotte's Hospital—one of the most famous in the country—expectant mothers would have to book up eleven months ahead! That, said Miss Dare, the Matron, is the present position." *Sunday Pictorial*, London.

Should we pride ourselves on not having reached that point as yet in our planning, or should we envy the farsightedness of the British?

More Drugs to Middle East

INCREASED quantities of drugs, pharmaceuticals and other health supplies are expected to move to the Middle East through normal trade channels during 1944 as a result of modifications in foreign trade operations, according to the Foreign Economic Administration. This is being made possible by improved supplies and improved shipping situations, and commercial channels will be used to the full extent permitted by the Governments of the Middle East countries, which include Egypt, the Anglo-Egyptian Sudan, Iran, Iraq, Syria, the Lebanon, French Somoliland, Ethiopia, Eritrea, Saudi Arabia, Cyrenaica, and Tripolitania. A total of 300 tons of shipping per month for these countries has been allotted to drugs and pharmaceuticals in addition to the programmed list of essential drugs. This is a very large increase over the shipping space available in 1943 when no specific allocations were made.

NOT "PATENT" MEDICINES

Dr. F. J. Cullen, executive vice-president of the Proprietary Association, protests rightly against the term "patent medicines" when used to describe proprietary medicines. Dr. Cullen points out that this expression is a misnomer which has acquired a derogatory connotation. As has been indicated many times, the products to which this phrase refers are not as a rule patented; neither are they "open" as to their ingredients or processes as the literal definition of the word "patent" would imply.

Dr. Cullen suggests that proprietary medicine manufacturers discourage their employees from referring to the products of the industry in this manner. Further we would suggest that a concerted effort be undertaken to discourage use of this phrase in all branches of drug manufacture and distribution, both wholesale and retail. We well know that we can never expect to obtain the help of the medical profession in such an undertaking, nor can we obtain the aid of the enemies of the proprietary medicine industry. However, it is well worth the effort to attempt to stop the further spread of the use of this term, and to educate many unthinking people to use the term "proprietary medicines."

Duplicating by Nature

WE ALL know that most times if something cannot be done one way it can be done another. But ofttimes in facing a particular problem we are aware of this fact. An instance of this sort of thing was described by D. Howard Doane in the January 15 "Chemurgic Digest" in an attempt to duplicate cassava starch:

"Take the case of the cassava of the Indies and the waxy maize of the Corn Belt. If it became absolutely essential for us to produce cassava in this country, every crop specialist in the country would have agreed that the problems in connection with working out new planting methods, cultivating, harvesting, storing, dehydrating, and handling, would have taken from ten to twenty-five years. In this particular case, there is not much possibility that we would have ever succeeded because of the impossibility of introducing a tropical plant into the temperate zones.

"(But) when cassava starch no longer could be imported on account of the war, the corn breeders at the Iowa Agricultural College at Ames in cooperation with the United States Department of Agriculture, went to work to find some way of so changing the character of starch within a grain of corn that it would have the same characteristics as a fleshy root crop grown in the tropics.

"In a relatively short time they accomplished their objective. They were able to say to the corn growers of Iowa: 'We can now give you the *effect* of an entirely new crop never before grown in the temperate zones, the demand for which will run into millions of bushels and for which a good premium will be paid. To obtain this premium, you can continue to grow corn just as you have in the past. All that will be necessary is to keep out contamination from other types of corn and be certain that no mixing occurs from time of harvest to time of delivery.'"

Carelessness in Manufacturing

MOST often given as the reason why interest in pharmacy as a profession has declined to its present low point is the fact that manufacturers have produced products which are better than those prepared by the average pharmacist. This is due to the extreme care exercised by the scientific staffs of the manufacturing houses. Any letting down of the bars by manufacturers will ruin this industry, and the following editorial in the Journal of the American Medical Association indicates that there is laxity in some quarters:

"Apparently the circumstances created by the war have produced some relaxation of standards and control procedures established to insure the identity, purity, and potency of medicinal materials In recent months the Chemical Laboratory of the American Medical Association has found serious discrepancies between the labeling and the actual contents of materials submitted by several drug manufacturers. Each instance has been called to the attention of the manufacturer concerned. The public, the physician, and the pharmacist depend in large measure on the manufacturer of pharmaceuticals for many finished dosage forms of drugs which, experience has shown, can be provided efficiently by modern mass production methods. Possible loss of life or wasted man-hours of work, resulting from faulty dosage traceable to mislabeling, cannot be tolerated. The cooperative efforts of physicians, pharmacists, and manufacturers of pharmaceuticals have resulted in the adoption and constant improvement of criteria designed to facilitate accuracy in prescribing, dispensing and preparing of drugs. Such criteria are embodied in New and Non-official Remedies, in the Pharmacopoeia of the United States, and in the National Formulary. Uultimate responsibility for marked dosage forms of drugs, such as ampules, tablets, and suppositories, lies with the manu-

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SYNTHETIC DRUGS IN FUTURE

As opposed to those who believe that a great future for therapeutics lies in research in botanicals, Sir Henry Dale, G.B.E., F.R.C.P., P.R.S., in receiving the Hanbury Memorial Medal award in London last month, had the following to say:

"Now, as you know, the possibility is presenting itself that Fleming's discovery in 1939 of penicillin, the product of a mold, and its brilliant development in the past few years by Florey and his associates may have initiated another advance in the treatment of bacterial infections at least as great as that due to the sulfonamide derivatives and to some extent complementary in its applications.

"These new advances in the chemotherapy of bacterial infections, though they constitute the most striking of recent developments in medicinal treatment, represent by no means the only one. The same period can show an accelerated progress in the immunological group of remedies, especially for prophylactic use, in the chemotherapy of protozoal infections, such as kala-azar, in the recognition of additional vitamins and hormones and in the methods of making them available in forms effective for therapeutic use. There can be no doubt that the new movements towards a therapeutic dealing with causes rather than symptoms is rapidly gathering momentum. Even to the remedies dealing with symptoms the newest and most valuable additions are being made by synthesis. Has there indeed in recent years been any important new introduction of a natural drug, with a natural history and chemistry to provide a theme for the pharmaceutical expert of the older type, other than ephedra, with its alkaloid ephedrine?

"Nobody could mistake this rapid change in the orientation of therapeutic aim and effort as a passing phase. We must assume that it will continue, and that the center of therapeutic interest will move steadily away from drugs of the type to which Daniel Hanbury, and many of those who have preceded me here, devoted their scholarship and their scientific skill with such enthusiasm. And I suspect that the term 'natural history of drugs' may have to be given, as time goes on, an even wider interpretation than that which your committee has generously allowed it on this program."

LOOKING AHEAD

As we stand in the middle of an all-out war economy and face the possibility of at least two more years of war with Japan, we wonder what lies ahead for the manufacturers in this industry. The country is full of post-war planners. In fact writings and talks on post-war planning are so numerous as to lead people to the impression that we are doing nothing else with a war still to be won. Even so, a certain amount of planning for the future is essential and even though the planning might not fit into the post-war conditions in all respects, a certain amount of good will be accomplished by it if it is intelligently done.

The difficulty with some of the ideas of post-war condition gained by a large number of the citizens of this country is that we are going to have unlimited prosperity as all of the new scientific advances are all put into use for civilian economy immediately the war is over. The fact probably will be that production to supply the products curtailed by the war will be along the old lines in effect before the war started. The demand for certain things will be so great that there will be neither time nor reason to make any great changes. The improvements will come later when demand needs to be stimulated.

In the drug and pharmaceutical branch of this industry there is no reason to anticipate any radical changes. There will be surplus stocks and surplus production capacity for most of the raw materials and finished products. For example, sulfa drugs, penicillin, and synthetic vitamins have been stepped up to figures far beyond our normal domestic consumption and far beyond any export business that we can obtain in competition with other nations after the war. Drug and pharmaceutical manufacturers have expanded their capacity for production of finished products to a point far beyond our normal domestic and export demand. This is to be expected since we are supplying to our Armed Forces and Lend-Lease nations quantities of drug that will be never demanded in normal times.

In addition to this enormous production capacity, there will be on hand at the end of the war, enormous stocks of finished products which the Government has purchased for one reason or another but which have not been used. It must be remembered that the Government must have these enormous stocks on hand just in case they are needed. Army and Navy officials cannot be criticized for having these enormous stocks, but something will have to be done about them when the war is over and these products are no longer needed. If these products find their way into trade channels again, they will help to supply the much smaller demand existing at that time and thus they will slow down the plants of the manufacturer to a greater extent than if the plants were slowed down merely as the result of curtailment of the terrific war time demand.

Due to the fact that demand for drugs and pharmaceuticals will probably decline sharply when peace is arranged, unless we continue to ship our products to foreign countries during occupation of foreign territories and rehabilitation, competition among drug manufacturers should be exceedingly keen with many manufacturers who were small or completely unheard of before the war, fighting for places in the industry to which they will feel they are entitled.

Due to this increased competition, greater emphasis will probably be put on all sales angles. More salesmen and more detail men will be one thing that is certain to take place. Great effort will be put forth by manufacturers to develop original specialties as these will give them something to talk about in their selling, detailing, and advertising. In addition, there should be available when the war is over, many new and different packaging materials that should make it possible for manufacturers to have greatly improved and much more attractive packages as an aid to their effort to keep sales as near the peak as possible. Aluminum will be available in great abundance, many more plastics will be available, and many other materials upon which manufacturers are working but which they have not talked about openly as yet. Due to the fact that these packaging materials will probably be very low in price due to the large productive capacity available for their manufacture and due also to the fact that the makers of these various materials will be in sharp competition with each other for the markets at hand, they should be widely used in this country. Plastic containers of all kinds are a distinct possibility for a wide range of drugs and pharmaceuticals, competing to a fair extent with

What conditions will obtain in this industry after the war? There will be changes, but they probably will not be as radical as are anticipated in many other industries. Competition should be exceedingly keen with more manufacturers fighting for a curtailed market.

glass. Therefore, drug and pharmaceutical manufacturers must have open minds when the war is over and investigate every new packaging material that is brought to their attention so that they will not find themselves behind the parade in a sharply competitive market.

The fact that there will be new manufacturers in the post-war market, and the fact that there will be manufacturers who were small before the war looking for a real place in the market is not different than will be the case in practically all industries. There are manufacturers in all industries who have sprung up since the war began as manufacturers of essential goods for the Army, Navy, and Lend-Lease. These manufacturers, as a rule, are not manufacturing anything that some one else could not make, but they are doing a very good job in getting out rapidly the supplies of goods that are so essential to the war effort. Having been successful in turning out goods for the Government, these people are going to try and establish a business to consumers, doctors, and hospitals after the war is over. The one thing that some of them lack entirely is distribution, which, by the way, is perhaps the most important factor in the drug and pharmaceutical industry, and which is also exceedingly difficult and costly to establish. As a matter of fact, many companies have been bought by other companies at high prices merely to obtain in the shortest possible time the desired distribution which the buyer looked upon as the most important asset of the company which was buying. For with distribution goes a record of fair dealing with wholesale and retail distributors, as well as a reputation with the public and the doctors built up over many long years by advertising and other means.

Doubtless some of these companies will gain a foothold in the industry while others will fall by the wayside due to the sharpness of the competition and the fact that the old established companies know their business and will not be pushed aside easily. The large companies will continue to dominate the field with the newer ones coming in a small way and in the main handling products that are standard and easily sold through distributors who can make a longer profit on these lines than they can on the old established lines with excellent national reputations.

One of the attempts of manufacturers to enter the field in a larger way is that now undertaken by R. H. Macy & Co., the New York department store. While this is not similar to the case of those manufacturers who have been doing Government work, it indicates a trend on the part of the smaller manufacturers to expand for the post-war period. Macy has long had its own factory for production of drugs and cosmetics. Originally the goods were only sold in their New York store and in other stores under their direct ownership. Then as a second step, the line was offered to other department stores throughout the country. But now Macy plans to sell their goods through retail druggists, offering franchises, one in a small town, after the manner of Rexall and other lines sold on an agency basis. The name of the line is Supremacy, a very cute combination. Advertising is to be run in retail drug papers in order to interest the retailers in applying for franchises. It will be interesting to see how the retailers throughout the country react to this line, since before the days of the State Fair Trade Acts, the retailers hated Macy for their cut price tactics on drugs and cosmetics. And Macy's reputation for cut prices was not restricted to retail druggists in the New York Metropolitan area, but extended to retail druggists throughout the country, many of whom knew of Macy only because of their cut prices on drug store items.

The cosmetic industry can look forward to some new items after the war because of products developed for use by the Armed Forces but not as yet available for civilian distribution. One of these is the new insect repellent used by the Armed Forces,—being a product in the form of a cream that will repel insects for seventy-two hours after one application. In addition much information regarding new forms of cosmetics and new ingredients in cosmetics has been gained as a result of the shortage of supplies and also as a result of the development of many cosmetic products for the Armed Forces. This work has been fostered by the U. S. Public Health Bureau and other Government scientific agencies. When the war is over all of this knowledge and all of the new ingredients discovered will be available to manufacturers.

DEVELOPMENTS IN COSMETICS DUE TO SHORTAGES

By H. HILFER*

THE war has caused manufacturers in general to become ingenious in devising ways of manufacturing their products when their raw materials are curtailed. Shortages of raw materials probably have hit the cosmetic manufacturer harder than any single group, because cosmetics are all too often regarded as luxuries. He, therefore, has had to depart from the usual methods of packaging in order to keep producing at all. Drastic curtailment of materials considered the "backbone" of his industrial existence has forced him to reformulate his products in such a way as to remain acceptable to the consumer.

Packaging difficulties forced him from metal to plastics to glass. Rouge compacts normally pressed on metal discs or into metal cups are now being pressed on to fabroid discs. Makeup in cake form has had to be pressed directly into their containers or into plastic cups instead of into metal cups. This presented a mechanical problem to which the existing equipment (it being impossible to buy new equipment) had to be adjusted since the plastic cases varied somewhat in their size while the metal cups were always uniform. In conjunction with these packaging changes reformulation was sometimes necessary because of the incompatibility of the original formula with a new type of container, causing swelling or warping.

The shortage of alcohol and glycerine has perhaps caused more sleepless nights than most people can imagine. These materials were used in hand lotions, tooth pastes, toilet waters and other products representing a large dollar volume. In overcoming the problems presented by their curtailment the cosmetic manufacturer has the chemist and the larger producers of chemical specialties to thank, and he also owes a vote of thanks to himself for becoming flexible enough to take these changes in his stride. New materials have been appearing steadily to replace those which are no longer obtainable. In addition synthetic substances have made it possible to produce his products in a different form. Sometimes substitution had to be made for the substitutes, but fortunately there has always been something available which did the job.

One of these, whose use has increased as a result of the alcohol shortage, has been the dispersing agents, of which there are many and varied types. Some are good emulsifying agents, others are so potent in their activity that they are capable of dispersing one immiscible liquid medium through another in molecular size and thus make it appear to be soluble. Advantage has been taken of this property to enable the producer to drastically cut down on the amount of alcohol used in colognes and toilet waters, since the dispersing agent causes the perfume oil to be distributed through the water vehicle as a seemingly clear, soluble substance. Good examples of this type of compound are the "modified" mannitan mono esters, which contain an additional solubilizing group in addition to the free hydroxy radicals enabling them to exert so potent an effect on lipoids and other water immiscible compounds. The mannitan compounds have been curtailed insofar as the toilet goods industry is concerned, but substitutes are available to carry on their work.

Another means of incorporating perfume oils in an aqueous vehicle without the use of alcohol has been the cream cologne, where the essential oils have been incorporated as part of an emulsion. These products have received good reports from consumers and it is possible that they may retain their popularity after the alcohol shortage is no longer a problem. From a manufacturing standpoint these products are more difficult to prepare than the usual emulsified hand lotion, because essential oils are harder to emulsify and they contain a larger percentage of these compounds than the usual lotion. Since the essential oils themselves vary so widely in their composition, each odor in itself becomes a distinct problem. A formula found to be suitable for one odor will not necessarily be suitable for another. In addition many of these oils contain fair sized amounts of free carboxylic acids, capable of combining with triethanolamine or other alkalis. This neutralization may break the emulsion, or if an excess of alkali is added to compensate for their presence, the entire character of the odor note may be changed. These characteristics

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The ability of cosmetic manufacturers to continue to produce suitable products in the face of curtailment of raw materials which were considered essential has won the admiration of all. In this article, Mr. Hilfer tells of the outstanding developments that made this startling record possible.

must be investigated before a suitable formula could be made.

The shortage of glycerine has caused a large amount of work to be done on creams and lotions in which it was an important component. It is primarily used as a humectant and does a good job of slowing down the evaporation rate of the aqueous portion of the emulsion; but it also adds something to the apparent emollient properties of the product. Few substances by themselves were satisfactory substitutes, since they did not possess all the requisites of glycerine. Sugar syrups, though they possess the required humectant properties are difficult to emulsify and other substances were not completely capable of replacing it. By using some of these substances, however, and making compensatory changes in the rest of the formula it was possible to produce the desired effect.

In one of the nationally distributed products glycerine was eliminated entirely and the alcohol cut down to compensate for the decreased drying time due to its absence. In addition a fatty oil was added to the formula to compensate for the decreased emolliency due to the absence of glycerine. There is a noticeable difference between this product and the one produced before the war forced these changes, but the primary effects are still obtainable, and it has not suffered on the market.

The tooth paste manufacturer was also confronted with a glycerine curtailment, in many cases the most important single component of his product. Most of the substitutes could not be used because of an undesirable taste, which could not be covered and complete changes in formulas had to be resorted to. The use of sugar syrups played an important part in this new development and seems to fit into the picture very well. Among others, apple syrup, something entirely new as far as the toilet goods manufacturer is concerned, was one of the materials proposed.

Castor oil was used in greater volume in hair dressings and in lipsticks. Because it is the only natural triglyceride containing a hydroxylated fatty acid, it is in a class by itself and, therefore, not replaceable by any other natural oil. Its high viscosity and solvent property for "bromo acids," the staining portion of the lipsticks, made it the backbone of most lipstick formulas. Its solubility in alcohol, a property which no other triglyceride possesses made it possible to use in hair dressings. When the use of this oil was curtailed complete changes had to be made in both these products.

Castor oil was difficult to replace in lipsticks. It was done by using synthetic compounds having free hydroxy groups and, therefore, capable of causing the "bromo acids" to produce a stain. Formula changes had to be made to compensate for the lower viscosity, but this was done and good results have been obtained. Manufacturers have had to resort to the use of paper containers but they have been asked to continue to produce the contents without too great a slowing of production.

The hair dressing producer had both his primary raw materials cut off—castor oil and alcohol—and, therefore, had to turn to a new type of vehicle. He is now producing a hair dressing in an emulsion form. Instead of castor oil he is using mineral oil and instead of alcohol, water. The product is similar to the emulsified lotions and consists of a triethanolamine stearate emulsion of mineral oil in water. One of the popular products now on the market contains approximately twelve per cent of mineral oil, approximately the amount of castor oil used in the hair dressing solution and may be applied in the same manner as the more conventional type, giving equally good results, producing much the same effect on drying. These hair lotions promise to retain their popularity after the war and to assume a permanent place in the cosmetic line.

The current trend in the beauty shop seems to be toward the so called "cold wave" and away from the machineless permanent. This tendency was apparent before the war but was given a swift impetus by the cutting down of the supply of exothermic chemicals. The permanent wave depends on a partial degradation of the hair molecules, usually produced by heat. The heat was supplied either by the use of electrically heated pads or by the use of some other means of heat application. The exothermic pad was extremely popular with the beauty shop operators because the pad simply had to be wetted and then applied to the hair. The introduction of moisture to the pad started a chemical reaction,

(*Continued on page 229*)

TESTING AND CONTROL OF AROMATICS

Has it ever occurred in your organization that a shortage of a perfume oil was discovered in the last moment? That an emergency call was sent out and a rush-order delivered—whereupon some one glanced at the label, maybe even poked his nose into the container, and, presto, dumped the required quantity into an already waiting batch. And probably no harm was done at that.

Oh, you say you don't do things that way. That's fine. But do you really check your aromatics as thoroughly as you could? (And here Aromatics stands all-inclusive for essential oils, synthetics and compounds.) Unless you are one of the very big houses the chances are that your controls are not complete or even as comprehensive as feasible for your requirements.

Therefore the following reviews what can be done in the way of testing and discusses the relative merits of various methods.

The first and most important thing, of course, is to check for odor value. This, after all, is the feature for which the aromatic is used and every other test is only auxiliary and subordinate to the odor test. In order to judge an odor properly you have to compare it with a standard. It is important to keep the standard sample in the best manner prescribed—though seldom practised—namely in dark glass bottles, well filled and well stoppered. If this is followed the standard sample should be good for at least a year. It is not quite sufficient to compare a new shipment against the last previous shipment only, because by such a procedure a gradual, step by step deterioration might easily pass undetected. Always check against a standard sample and see to it that a truly representative standard—or master sample is on hand. If you wish to include the previous shipment and a quotation sample in the comparison, so much the better.

Everybody knows that the only practical way of comparing odor values is to put the products on blotters and to smell them at regular intervals. Not everybody realizes the importance of putting the periodic findings down in wirting. It is not only worth while to have the results on record but it also helps a lot in forming a clear judgment. In particular the starting odor and the end odor should be carefully observed. The first is most likely to show up flaws in quality, the second to show shortcomings in strength. However, the most careful olfactory appraisal might still be deceptive, since it depends entirely on the subjective impression made on the nose, and the judgment of our human senses is fallible. Here the other tests come in, determination of physical and chemical constants.

To begin with the characteristic which is most easily determined, most generally applicable and for which consequently data are most readily available: *specific gravity*. There are three suitable methods by which to determine it: By hydrometer, Picrometer and Westphal-balance. The first is extremely simple and fairly accurate if you use a set of hydrometers, each with a limited range. The disadvantage is in the rather large size of sample needed. The second is the most precise—if you have a good analytical balance. It is also the method which requires the greatest amount of labor for each determination, but at the same time is the only way to determine the Specific Gravity of small samples. This leaves the Westphal-balance as the most practical instrument for general purposes in the field of aromatics. It is sufficiently accurate, compact, needs little time for a determination, no larger quantity of sample than is normally available and it is inexpensive.

Next in line are the optical properties of aromatics, refraction and rotation.

The determination of the *refractive index* with an Abbe-type refractometer is the speediest of all physical tests and has the additional advantages that it requires only a few drops of material and that it is applicable to almost any aromatic. Your enthusiasm for the use of a refractometer will, however, be dampened by the fairly high cost of the instrument. If you don't use quite a few aromatics the purchase of a refractometer seems not warranted. Moreover you will hardly be able to get one for the duration. But there is twofold hope for the future. For one thing it can be expected that the optical manufacturers will offer improved instruments at prices below those listed now, as soon as war contracts expire. And as another source of supply there should develop a good second-hand market supplied by sources who at present use such instruments for war work and may not need them in future.

Checking essential oils, synthetic aromatics, flavors, and perfume compounds should be an important part of all manufacturers using these products. In this article the many methods for testing and controlling these products are described, and the usefulness of each test is told.

Rotation takes second place to refractive index for the reason that it cannot be applied as universally. While the rotation is an outstanding characteristic of some aromatics there are many inactive products for which the determination is rather meaningless. Regarding the instrument for reading rotations, the same applies for polariscopes what is said in behalf of cost and availability of refractometers. If you don't have one now you'll have to do without for the time being.

Restricted to aromatics which are of crystalline form at room temperature is the determination of the melting point, which can be done rapidly, easily and without any fancy equipment. Hence there is no reason why this test should be omitted. A sharp melting point is a good indication of purity, a poorly defined melting point is cause for suspicion.

For a few aromatics whose melting point is around average room temperature, so that they are sometimes liquid, sometimes solid, it is more feasible to determine the solidification point.

Probably the most instructive test for many aromatics from the perfumers point of view is a *fractionated distillation*. The different fractions obtained can tell a lot about the odor value of a product. They frequently give a better understanding of the characteristic olfactory changes, through which many aromatics pass, from top note to end odor. This again can help in selecting a more suitable grade of a product which may not be quite satisfactory or in determining whether an allegedly better grade is really worth the extra price. And while a distillation is run to obtain the fractions, at the same time the boiling range can be determined, which is a fine criterion for the degree of purity. However, there are some complications. Many products cannot be distilled at atmospheric pressure without being spoiled, which of course makes the fractions obtained useless. This would call for distillation at reduced pressure, which in turn requires vacuum equipment. There are many kinds of vacuum-pumps, gauges and regulators and merely the question how much use there is for them in each case should govern the extent of investment in such equipment. It is not easy to run reliable boiling range determinations at reduced pressure because of several variable factors. Speed of distillation, pressure and thermometer correction all have to be maintained at a controlled rate or results cannot be duplicated.

Color is also a characteristic of aromatics. Not too much importance should be attached to it, because it lacks definite relation to odor value, but you certainly do not want to accept some material which is considerably off-color without questioning its quality. And to watch out for plain dirt, rust or disintegrated lining material dissolved or dispersed in your aromatic has much to recommend it, particularly in these days when containers are returnable and used over and over again.

Last and least of the physical constants is *solubility in alcohol* of various strengths. Least because of the vagueness of this characteristic. In the first place the specifications are generally given within wide limits, like "dissolves in 6-8 parts of 70 per cent alcohol." This is an ample range as such. Moreover no precise understanding is generally accepted for what constitutes "solution" in this respect. Must the liquid be brilliantly clear? Is a slight haze permissible? Can a turbid solution pass as long as no oil comes to the top nor a precipitate forms at the bottom? How about temperature? With all these elements of uncertainty in addition to the nuisance of keeping a set of properly adjusted alcohols from 50 per cent up on hand, solubility cannot take a decisive part in control work. It may serve as a subordinate test when others have given reason for doubt. The former significance of solubility in the formulation of low grade lotions is largely outdated since alcohol extenders are available. But speaking of solubility—there is one more auxiliary test, rather a little trick, because it cannot be measured and therefore lacks scientific method. This is formation of schlieren or their absence. It is possible to check if an advance sample is actually from the same lot as the subsequent shipment by having drops fall from one into a test tube filled with the other. Both must be at the same temperature. If the drops dissolve without formation of schlieren the materials are identical. If schlieren appear they are not.

Chemical testing methods are by no means as easily applied nor as universally applicable as the physical

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PREPARATIONS FOR TREATING ASTHMA

By M. A. LESSER

ASTHMA is a most unpleasant condition. The sudden attacks of gasping, wheezing and choking are bad enough in themselves, but the feeling of apprehension engendered by the paroxysms are often worse than the actual physical disturbance. Fortunately, there are effective means for relieving most asthmatic attacks promptly and effectively. Moreover, increasing knowledge of the causes of the condition permits the use of measures that often will either prevent recurrent attacks or mitigate their severity.

Medical authorities[1] define asthma as a syndrome characterized by dyspnea, either recurrent or continuous, with wheezing rales, a sense of suffocation, and usually cough. It is generally a manifestation of hypersensitiveness to inhaled or injested substances or to bacteria. Hence asthma may be of three types: allergic, infective, or a combination of both. Allergic or atopic asthma is the result of exposure to substances to which the individual is hypersensitive. Infective asthma is caused by bacteria and it is quite probable that that hypersensitiveness to the bacterial proteins enters the picture. Combination of the two is evident in asthmatic bronchitis, which is described[1] as "An inflammatory reaction in the bronchi due to infection, upon which an asthmatic state is imposed and which is caused by sensitization to the infecting organism; or the asthmatic state may precede the bronchitis or occur simultaneously."

Physiologically, the dyspnea (difficult breathing) characteristic of asthma is due to spasm of the bronchial muscles and edema of the mucous membrane of the bronchi.[2] Specific therapy aims to prevent such effects, while symptomatic treatment serves to relieve them. Specific therapy is determined by the type of asthma encountered in the individual case.

In hypersensitive individuals, the distressing symptoms of allergic asthma may be brought on by a great variety of substances. Pollens, house dusts, animal danders, certain foods and drugs are all familiar excitants that may cause asthmatic responses. However, occupational asthma is widespread and, according to Gray and Albert,[3] occurs most frequently among bakers, furriers, metal workers, cosmeticians, pharmacists, chemists, laboratory workers, refrigerator servicemen, upholsterers and hat makers. Under some circumstances the hypersensitiveness may be sufficient to preclude these allergic individuals from certain trades or professions.

Specific treatment in allergic asthma depends upon accurate determination of the offending substances by means of skin tests, elimination diets and other standardized diagnostic procedures.[4, 5] In many cases avoidance of contact with the responsible allergen will suffice to prevent further attacks. Since this is not always possible or feasible, specific desensitization is undertaken. While successful in many instances, such desensitization requires skill and knowledge not only for good results but for the avoidance of untoward reactions.

Specific therapy of the infective type of asthma is based upon removal of primary foci of infection, immunization by vaccine therapy and specific drug therapy with sulfonamide compounds.[6] Autogenous vaccines, prepared from tissue cultures and from sputum, are usually employed in these cases.

The sulfonamides are frequently recommended as a means of overcoming infection caused by the pneumococcus, hemolytic streptococcus and staphylococcus. Good results have been reported from the use of sulfanilamide and sulfapyridine in the treatment of "status asthmaticus," a type of asthma resistant to the usual methods of therapy.[7, 8] However, Cooke[6] warns that one must be on the alert for sensitization to the drugs in asthmatic patients.

When both allergic and infective asthma are present, all of the factors causing the condition must be controlled when they are concomitantly active.[6]

Symptomatic management of asthma, whether atopic or infective, is built around measures intended to give relief of the bronchial obstruction and the oxygen deficiency, and to provide rest and comfort. Often the condition is preceded by certain symptoms, such as nasal congestion, rhinorrhea, excessive sneezing, a dry irritating cough or a slight shortness of breath. In this so-called "pre-asthmatic" state, prophylatic measures may serve to prevent the development of the more severe forms.

In severe attacks of asthma, there is general agree-

Asthma is a disease which has defied complete control since the beginning of medicine. Many methods of treatment have been used, many theories have been tried, and many types of preparations have been sold for this dreaded condition. This article gives the latest information available.

ment that injections of epinephrine (adrenalin) in 1:1000 strength is the treatment of choice to produce prompt relief.[5, 9] After injection, the paroxysm usually abates within five minutes and disappears in about half an hour in responsive cases.[3] Though it is a very potent drug capable of causing dangerous reactions, when given in proper dosage, epinephrine works promptly and effectively and, aside from temporary nervous effects, is relatively harmless and not habit forming.[10] Unless suitably stabilized, however, adrenalin solutions deteriorate quite rapidly and any discoloration is an index of loss of potency.[11]

Because patients with severe chronic asthma require frequent daily and nocturnal injections of epinephrine to keep them free of symptoms, various methods have been devised during recent years to decrease the number of injections yet maintain the symptom-free state. Among the most widely used of these "slow epinephrine" preparation is one made by suspending adrenalin base in peanut oil. Employed for its less pronounced but longer effects,[6, 12, 13, 14] the beneficial action of such compositions may persist for as long as sixteen hours without the need for another injection. For some patients such a preparation is very satisfactory, but in a few cases it may cause troublesome local reactions.[9] Although such an occurrence seems quite rare, death has followed the injection of adrenalin in oil.[15]

Another slowly absorbed preparation is the gelatin-epinephrine mixture developed and used by Spain and his associates.[16, 17] This product is made as follows: To a solution containing 40 cc. of glycerine and 130 cc. of distilled water are added 1.8 Gm. of sodium chloride, 1.0 Gm. of chlorobutanol, 0.2 Gm. of sodium bisulfite and, last, 40 Gm. of gelatin. This preparation is mixed vigorously by rotation and then sterilized by autoclaving for thirty minutes at 20 pounds pressure. The final solution is made by adding one part of a 1:100 solution of epinephrine to four parts of the sterile gelatin mixture.

Although the gelatin-epinephrine mixture is a 1:500 solution, containing twice the adrenalin content of the ordinary 1:1000 aqueous solution, pallor, palpitation and tremor following injection were both infrequent and delayed. Not only did the mixture cause a sharp reduction in the daily number of required doses but clinical improvement was also frequently noted. The combination was found especially valuable in patients who could not tolerate the standard adrenalin solution.

More recently, Waterman,[18] dissatisfied with oil preparations, undertook to prepare stable suspensions of adrenalin base in water. Adrenalin base and suprarenin base were employed. The most satisfactory method of preparation was to dissolve sodium thioglycolate in distilled water and to neutralize this with disodium phosphate. Glycerine and chlorobutanol were also added, so that the final proportions were: sodium thioglycolate 2 per cent, glycerine 10 per cent and chlorobutanol 0.5 per cent. The solution was sterilized by autoclaving or preferably, by Berkfeld filtration. Adrenalin base was then added to make a suspension containing 2 to 4 mg. per cc. Bottled in sterile, rubber-capped vials, such suspensions often showed no evidence of deterioration for periods up to fifteen months.

With doses varying from 1 to 4 mg., injections of this aqueous suspension awere found effective both prophylactically to prevent attacks and therapeutically to relieve paroxysms. Although general reactions have sometimes occurred, it is usually possible to give three or more times the tolerated amount of soluble adrenalin with no general epinephrine reaction. More normal breathing and longer injection intervals were obtained when adrenalin base is used rather than adrenalin solution.

Unfortunately, there are cases which are not benefited by injections of epinephrine. This condition, known as "status asthmaticus," is quite serious. The suffering is severe and although death due to asthma alone is not common, a fatal termination may result from the suffocation caused by the formation of tough sticky plugs of mucus in the large and small bronchial tubes.[9]

Under such circumstances other drugs must be employed for these "epinephrine-fast" cases. Among the most valuable of such agents is aminophylline (theophylline with ethylene diamine) which is a double salt of theophylline. Its value in asthma was first indicated

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COSMETICS AND DERMATITIS

By LOUIS SCHWARTZ
Medical Director*

In this paper delivered before the Scientific Section of the Toilet Goods Association, Dr. Schwartz describes an excellent method of testing new cosmetics against possible harmful allergic reactions. A manufacturer would do well to follow his suggestions before attempting to market a new product.

DERMATITIS from cosmetics rarely occurs among workers who make them. I have inspected several of our large cosmetic manufacturing plants and have yet to see a case of occupational dermatitis among the workers.

However, among beauty operators, a considerable percentage develop dermatitis. Hair dressers' eczema may be caused by soaps, tar, oils, hair tonics, hair dyes, hair wavers, hair straighteners, depilatories and cuticle removers. These are cases of occupational dermatitis and can be prevented by the use of rubber gloves.

It is the dermatitis that occurs among the users of cosmetics which concerns us most. Outside of dermatitis from the improper use of depilatories, cuticle removers, perspiration inhibitors, bleaching and freckle creams, hair wavers and straighteners which contain primary skin irritants, the majority of skin injuries among the users of cosmetics belong to the allergic class, and have been caused chiefly by synthetic hair and eyelash dyes, lipstick, nail lacquers, and lately an outbreak from hair lacquer containing a synthetic resin as a substitute for unobtainable shellac.

While cosmetics as a class rank among the safest of substances insofar as producing dermatitis is concerned, yet there are occasional outbreaks of dermatitis among the public from new and untried cosmetics. Such outbreaks not only cause suffering but also cost the cosmetic industry considerable money in settling damage suits. Moreover, it makes the public doubt the value of cosmetics and fearful of their use.

The cosmetic industry owes it to the public and to itself to spare no means in order to place only safe cosmetics on sale. This can be done by testing the effects on the skin of new cosmetic formulas before placing them on the market. Based on the author's extensive experience in the field, the following procedure is suggested:

Before placing a new formula on the market closed patch tests should be performed by a competent dermatologist on at least 200 subjects with the new formula using as a control an old formula which had been on the market for years, and which had caused no unusual number of complaints. The closed patches should remain on for 48 hours after which the reactions should be read each day for three days in order to observe late reactions. The number of reactions obtained from the new formula should not exceed the number obtained from the old.

Ten days after the last reading of the reactions new closed patches of both new and old formulas should be re-applied on the same 200 subjects and allowed to remain on for 48 hours and the reactions again read each day for three days after removal of the patches. If the number of subjects showing sensitization reactions from the new formula exceeds the number showing sensitization reactions from the old formula, the formula is unsafe. Those tests will give an idea of the relative skin irritating and sensitizing properties of the new formula as compared with the old one, but do not give an accurate idea of what may happen under conditions of actual use. Therefore, the following additional tests should be performed:

The same 200 people should actually use the old and the new cosmetic each day on opposite sides of the body for a period of four weeks. If no cases of dermatitis result from the new formula it is safe to place on trial sale. If only one case results then another group of 200 people should be subjected to the actual use test. Only if no cases of dermatitis result among these is it safe to place the cosmetic on trial sale. If more than one case of dermatitis occurs among the first 200 subjects after four weeks of actual use the cosmetic is unsafe.

By trial sale is meant the sale for a period of not less than one month (if no cases of dermatitis are reported before this time) in only one community where be-

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*From Dermatoses Investigations Section, Division of Industrial Hygiene, National Institute of Health, U. S. Public Health Service.

ALCOHOL STILL TIGHT

MILITARY and essential civilian requirements for alcohol in 1944 will require full usage of all alcohol producing facilities including those devoted to beverage alcohol, according to Donald Nelson, chairman of WPB. Thus any possibility of more alcohol for this industry is not in sight for this year at least, the main reason for the increased Government demand being for use in the synthetic rubber plants. And since there is no possibility of any letup in demand until Japan is beaten and natural rubber is again available, the closing of the European phase of the war would not change the picture materially.

Government stocks of industrial alcohol have dropped from a peak of 138,000,000 gallons as of last July to approximately 80,000,000 gallons at the end of 1943, and will drop further to 41,000,000 at the end of 1944. Since about 30,000,000 gallons are regarded as the minimum necessary "working inventory" at synthetic rubber plants, arsenals, powder plants and tankport terminals for Lend-Lease shipment, present reserves cannot safely be allowed to decline much further.

The following table shows the situation as to requirements, supplies and stocks, in millions of gallons of 190 proof alcohol:

Estimates

	1942	1943	1944
Requirements	226	433	632
Supplies	298	451	593
Government stocks at end of year	64	80	41

"To meet the goals in 1944," Mr. Nelson said, "will require full usage of all facilities for industrial alcohol production, including beverage alcohol plants. The steps which are being taken to insure availability of alcohol for all essential war purposes include:

"1. Attempting to secure suitable and sufficient raw materials for alcohol producing plants, notably molasses from the Caribbean for the Gulf Coast and East Coast industrial plants and corn for the grain alcohol plants.

"2. Expediting the completion of new grain alcohol plants which are now under construction.

"3. Securing maximum production from present facilities by means other than those listed above in 1.

"4. Having the British resume the production of alcohol, using Caribbean molasses which would be shipped in place of the present Lend-Lease industrial alcohol commitments to Britain for war production.

"5. Attempting to secure imports of alcohol from the Caribbean if it proves impracticable to obtain proper amounts of blackstrap molasses because of its consumption in new Caribbean distilleries.

"6. Tightening the allocation of alcohol.

"7. Preparing against the contingency of grain shortages in the United States in 1945 by developing suitable projects to produce alcohol from non-grain materials such as petroleum gases and wood wastes or from Canadian wheat supplies or projects to produce from other sources certain materials which now require alcohol.

"It is anticipated that the alcohol situation will remain tight as long as the rubber program needs all-out production from the plants which make butadiene from alcohol. These plants are expected to operate at least 150 per cent of rated capacity during much of 1944. The most recent estimates of the rubber director call for 50 per cent more alcohol in the first half of 1944 than had been envisaged in the original program.

"Careful control and planning of the alcohol program must be continued to ensure against a potentially critical situation ahead."

Requirements of industrial alcohol increased from 226,000,000 gallons in 1942 to 433,000,000 gallons in 1943, and are predicted to be about 632,000,000 gallons in 1944. The uses are classified as follows:

(In millions of gallons of 100-proof alcohol)

	1942	1943	1944
Direct military	52	43	48
Lend-Lease	25	68	59
Synthetic rubber	..	127	328
Indirect military and civilian	120	146	165
Anti-freeze	29	49	32
Total	226	433	632

According to the War Production Board, one of the major problems, is that of securing blackstrap molasses from Cuba for domestic industrial alcohol plants. It is estimated by the WPB that Cuba will produce some

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IMPORTANCE OF BOTANICALS

Dr. Ivor Griffith wonders why interest in botanicals has given way to interest in coal tar products. He says, "It may be high time for a botanical renaissance." An opposite view by Sir Henry Dale is given on page 153.

IN AN address given at the Unveiling Ceremony of the fifth in the series of Paintings, "Pioneers of American Medicine," Dr. Ivor Griffith made the following interesting comments on the future of botanical drugs:

"This seems an appropriate spot to linger long enough to hazard the opinion that current researches in the pharmacological field have by-passed the botanicals too long. Penicillin, our most recent and spectacularly successful drug, is essentially a low grade botanical derivative. Some day it may be synthesized. But until then its production will continue a tedious work of poor productivity.

"And who knows but that even the old-fashioned drugs, empirically used by folks of countryside for countless generations, may prove a fruitful field for pharmaceutic research.

"In a mad scramble to squeeze out of the coal tar barrel every available virtue, research may have neglected the botanicals.

"The spectacular successes of surgery, the overzealous and frequently illogical zoological fads and the overemphasized phases of bacterial medicaments, all have turned our eyes away from medicinal plant possibilities.

"Our heads have been dizzied with serums, endocrines, vitamins, vaccines, surgical tricks—ectomy this —otomy that—transfusions, infusions, delusions—adjustments, psychopaths, osteopaths, neuropaths, naturopaths, and several other paths—and a few detours.

"No one can convince me that even grandmother's fresh drug infusions or old-fashioned teas of garden herbs, had no especial value. In our scientific smugness have we neglected many of the commonplaces such as boneset and mullein, bitter apple and horse nettles, plantain and heal-all, liver-wort and tansy, pumpkin seed and mallow—and a host of other herb and parts of herbs that have served the countryside for centuries with their healing ministrations?

"For so truly as the Peruvian bark furnished the specific to the dread malaria, the white poppy of India its soporific juice, the oil from wormseed its hookworm poison, the Indian chaulmoogra its leprosy treatment, the ephedrine of Cathay's ma-huang its asthma specific—equally true is it that there is a myriad of other plant antidotes of pain waiting for proper appraisal. It may be high time for a botanical renaissance.

"Perhaps this global calamity with its complications may have awakened us to a need for a new appraisal of the value, for the time being at least, of the botanical drugs. Consider how great was our need for quinine, a distinctly vegetable compound which over the decades has resisted all efforts dedicated to its duplication. Bataan and Corregidor might have had totally different implications had a supply of this vital botanical derivative been available at this critical time. And what a marvelous job has been done in this country even in the course of the last two or three years in making available natural plant drugs which in normal times had been imported into the country in great amounts. Digitalis, the outstanding heart drug, belladonna, the source of atropine and other important principles—valerian, hyoscyamus, squill, aconite and other drugs once could only be secured from Europe or elsewhere. Indeed, in a land where cardiac diseases are high in the death dealing scale, does it not seem strange that digitalis and strophanthus and squill and other heart active drugs had to come from Europe or elsewhere? And every time that Europe had a fuss of its own the great American heart went begging for its proper medicine.

"But no more; thanks to applied research in the field, we have signed and sealed another Declaration of Independence. In peace or war we have no longer to depend on outside sources for these vital drugs. We are growing them ourselves, and from digitalis to cinchona. This is just commonsense insurance, and though it took a global war to persuade Uncle Sam to do it—it is an investment never to be forsaken."

PACKAGING & SELLING

Folding and Set-Up Boxes

We've emphasized before that paper is this year's most critical single material. At the moment the raw material situation is so bad that it would appear impossible to equal the 1943 production of 2,015,000 tons for folding boxboard and 831,000 tons for set-up boxboard. However, those entrusted with the paper program are determined to get the waste paper and pulp to carry 1944 production at least to that level. At present much remains to be accomplished in sustaining and increasing the interest and effort in pulpwood cutting and waste paper salvage but these directing the program are taking the attitude that the announced goals cannot fail to be met even though currently the production is not meeting those goals. In other words, they are planning on a combined production of in the neighborhood of 2,500,000 tons of folding and set-up boxboard.

However, with the War Food Administration increasing its board requirements for the packaging of food about 20-25 per cent, the food requirements will take about half of this total production. Requirements for small arms ammunition boxes have fallen off, but there are increased needs for Ration K boxes and greatly increased requirements for shell containers.

These are, very briefly, the high spots in a picture which indicates very strongly that there isn't going to be enough paperboard to go 'round this year and that some form of control on its use in folding and set-up boxes is inevitable. By this time it seems only a question of what form the control should take and how soon it can be put into operation, for by and large there is general agreement upon the necessity for the control.

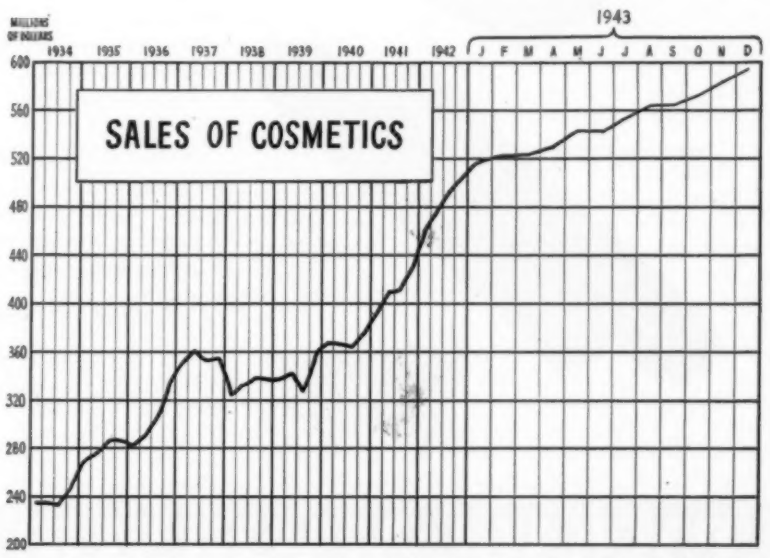
In some industries, including the cosmetic, there has been voluntary simplification of packages which has resulted in the saving of considerable quantities of boxboard. But any voluntary program has obvious frailties even under conditions of total war. That's why selective service is needed to raise an army and why allocation is necessary to make enough critical materials available for war use. In addition, a voluntary simplification has often resulted in making a hero out of a manufacturer who had a package which used 100 per cent too much board even though he honestly claims that he has reduced his use of paperboard by say 30 per cent. Another competitive manufacturer who may have had an economical and efficient package right along looks like a slacker by comparison when he only reduces say ten per cent.

As a matter of fact, it has often been the box maker who has been responsible for many of the savings which have been made. He hasn't necessarily done this out of patriotic motives but simply out of a desire to spread what board he can get and what labor he can keep as far as possible. In other words, instead of slapping as much board and as much labor on a given package, as is generally his effort in peacetime, his effort has been to take care of as many customers as he can with as many boxes as he can under conditions of limited supplies of labor and material. Further steps in this direction are indicated when the actual control is applied.

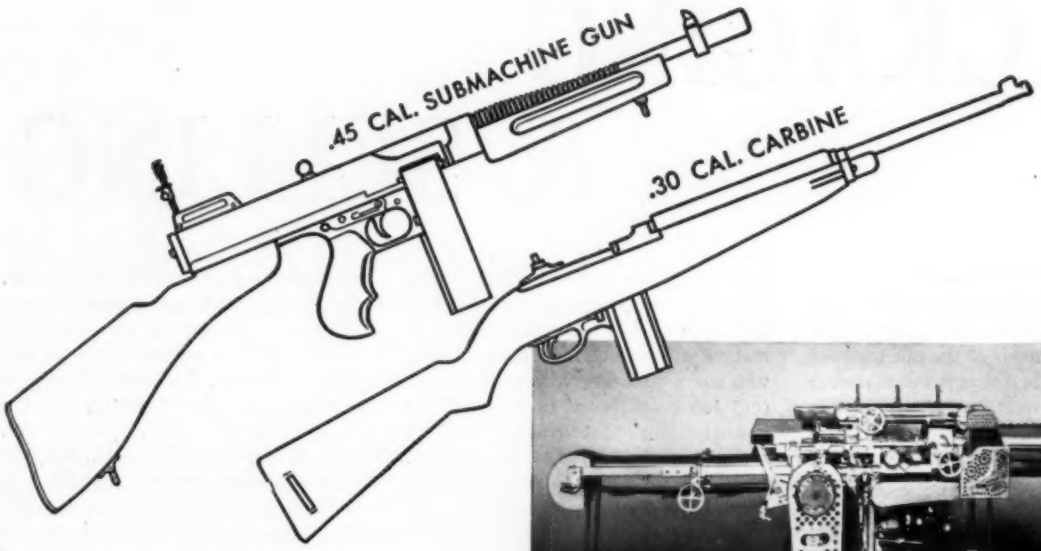
In this, as in other critical materials, there are many contingencies which may affect the situation at any time but which cannot be counted upon to ease today's shortage. The war in Europe is of course the biggest factor, but the easing of metal is also very important. More foods, lards, fats, etc., may be hurried back into metal containers as may some of the shells which are now using large quantities of paper. Maybe some time during the year, paperboard production may be increased if wood pulp from Sweden may be obtained to augment present wood pulp supplies. But plans cannot be made which depend upon something like this breaking to ease a critical situation and consequently at this date allocation or its equivalent appears inevitable.

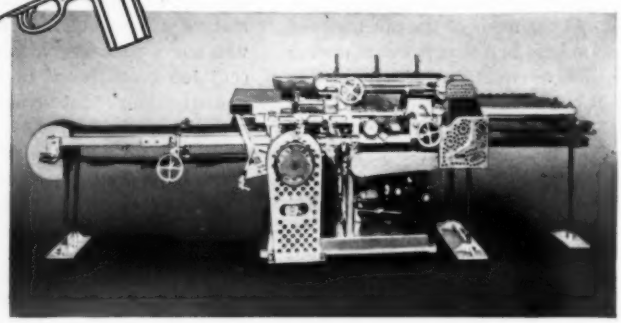
Lipstick Holders

The situation with respect to metal lipstick holders has cleared up to a certain extent since last reported upon here. In the first place, the manufacturers of lipstick holders with a few exceptions have apparently resigned themselves to the fact that the only metal which will be made available in the im-



Sales of cosmetics for the twelve-month period ended December 1943 totaled $594,729,000, an increase of $10,318,000 over the $584,411,000 reported for the twelve months ended with November 1943.





SERVING TWO IMPORTANT WEAPONS

Accenting packaging's contribution to Victory, our versatile FA machine is now turning out protective wrapping for both carbine clips and .45 cal. submachine-gun clips.

This wrapping has the tough and essential job of protecting the clips from the damaging effects of dust and moisture—foes that are encountered in shipment as well as on the fighting fronts.

After being dipped in oil, the clips are wrapped in greaseproof and water-proof paper, heat-sealed. Due to the irregular surfaces on the clips, the machine had to be provided with special heat-sealing equipment to ensure a thoroughly firm and lasting seal.

A good illustration, we think, of the adaptability of this machine.

The FA is but one of a large family of our machines now wrapping millions of packages daily for the armed forces. From this extremely versatile group you'll have no difficulty in securing the right type of machine for your wartime and post-war wrapping needs.

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PACKAGE MACHINERY COMPANY

Over a Quarter Billion Packages per day are wrapped on our Machines

mediate future for this purpose is blackplate. Several appeals have already been granted and many more have been filed so that under the limitations posed by manpower restrictions and ability to get the blackplate, metal lipstick holders will again be moving into the market. So far the sppeals have been made only by companies who have previously made metal holders for other potential makers have found the problem of getting dies or machinery an insurmountable obstacle.

Despite reports of large stockpiles of other metals, those representing the armed forces have been adamant so far as release of any of these other metals are concerned. Their attitude, briefly, is that even any talk of this must be postponed until after the European invasion has been made and the military situation stabilized on the Continent. They point out, with reason, that there is a perfectly natural slackening of production for war when production for peace is even talked about and that the military situation is far too critical to allow that to happen yet.

Consequently, with the above noted exceptions, the manufacturers of lipstick holders who felt that blackplate was unsuitable have decided to tackle it anyhow both to take care of regular customers and to maintain a competitive position under existing circumstances. Naturally, those who were first to file their appeals were the first to be considered. The appeal system is cumbersome but it is felt that this is preferable to a more flexible method under which the situation might conceivably get out of control and divert labor and machinery from war production.

Plastics for Cosmetics

Present indications are that plastics for cosmetic containers will continue to be released at the rate of approximately 200,000 pounds per month in the immediate future. Practically all of this has been going into lipstick containers and consequently, E. B. Tysdal, deputy chief of the drugs and cosmetic section, WPB, as head of the cosmetic unit, had been cooperating with the plastics section in allocating the molding powders to cosmetic manufacturers. With the current bottleneck in thallate plasticizers which has limited cosmetic use of plastics to powders containing not more than 10 per cent of this material, Mr. Tysdal has announced that the allocations will be dispensed with inasmuch as it now becomes more a matter of experimentation between molder and cosmetic manufacturer to see what can be developed within this limitation. A further factor in the decision was also the fact that the blackplate holders are starting to come in.

"Quick Change"

Lucien Lelong is introducing Quick Change liquid "cake" make-up, a creamy fragrant cover-up type of make-up easily smoothed on with the fingertips. It comes in five complexion tones the same as the Lucien Lelong face powder: Rose Rachel, Mauve Rose, Peche, Rose Beige and Brazilian. The retail price is $2.

Quick Change is Lucien Lelong's answer to the cover-up type of make-up which has proved so popular in the last year. The cake make-up does a wonderful job of producing a smooth, velvety appearance on most skins. However, it does have its disadvantages such as causing dryness, bumps, whiteheads, etc., on some skins. Older skins, because of dryness, do not always respond favorably from an appearance standpoint to cake make-up. The result of using this type of preparation on older skins for that reason very often gives a masked, rather than natural appearance, and lines and wrinkles are accentuated. By and large, however, the cake make-up preparations are looked on favorably by women today because they do cover up pores, skin imperfections, and do give the desired appearance.

With Quick Change Lucien Lelong hopes to have achieved perfection—in other words, this liquid "cake" product promises to give everything to be desired from cake make-up without the disadvantages. Well, time will tell, and if Quick Change can do this, it will be a winner. Just how it may differ from Westmore's "Over-Glo" is a moot question at this point since no samples were available for experimentation. It may be said that although "Over-Glo" has been very well received in the popular-priced field, it still has not struck the note achieved by the dry cake make-up type of preparation.

von Miklos on Post-War Packaging

Josephine von Miklos, well-known designer and long-time writer for this publication, addressed the cosmetic section of The Fashion Group in New York on February 9 on the subject of post-war cosmetic packaging. Some of the high-spots in her interesting and authoritative comments were:

"Personally, I hope for less chi-chi. We went pretty far before the war. We went haywire with sophistication. This is not said in criticism but is a mere statement of cold fact. In cosmetics all too often the cost of accessories in a package far outweighed its quality and/or its content. I am not speaking of gay and cute things which put a touch of color into one's life. I am thinking of doo-dab merchandising and fancy-goods promotions in bad style. . . . wrong interpretation of fashion trends.

"Plastics and light metals will probably provide the greatest scope for package designer. What we must guard against is a tendency to make one thing look like another. We must learn to understand each material and its applications as well as its limitations, and there are limitations to every material. Get away from ersatz-philosophy, from the state of mind of make-believe and substitution. For those very reasons, tremendous scope in developing new designs for new materials, rather than applying old ideas to new materials. Also, in combining materials which have not been combined before.

"I can't say how frequently a line should be restyled . . . how often should a house be rebuilt, a room re-decorated? The great trick for a staple line is, perhaps, to hit on a design . . . and that goes for *any* kind of a design . . . which has the basic elements of style and good taste, regardless of period, rather than temporary fashion trends.

"From a purely utilitarian standpoint, a cream jar should be lighter than it has ever been . . . not made of glass . . . it should be made of some non-slipping material—not a smooth plastic—with better screw-devices on caps, etc. On the other hand, no matter how practical, it won't sell if it's ugly. This is where good designing comes in: to relate these factors.

"After the last war there was the beginning of modern style—a combination of utility and decor. I believe we stand at the threshhold of another such fusion. It will then happen, I think, as it has happened before, that a new and more universal style will gradually evolve; some common denominator which will express an era as a whole. The definitions of these new trends are not yet actually visible; but somehow, it seems to me, there is the beginning of a new style inherent in this ever widening mechanical perfection applied to ever new materials and in the hopes and dreams of countless numbers of people for a better world and a world filled with beauty."

Assure "life of the product" identification with

MEYERCORD DECALS

Meyercord Decalcomania trademarks and nameplates stay clean and bright . . . "stay put" . . . and serve as silent salesmen for the life of your product. They are durable, washable, acid-proof, and simulate colorful handpainting effects on glass, pottery, metal, wood or plastics at production line speed. Any design, in any colors or size can be reproduced at extremely low cost. Special production techniques provide fast application on both flat and curved surfaces. Smartly designed packages deserve smart, modern decoration. Eye-appeal spells sales-appeal. Investigate the unlimited effects in color and design obtainable with genuine Meyercord Decals for both package and product identification and decoration. Free designing and technical service. Write for complete information. For prompt attention address inquiries to Department **14-2.**

"While only a rookie," reports Sportline, Inc., "BATTER-UP is already among the number one fan-getters in the field of men's toiletries." Sold in masculine pottery containers symbolizing America's favorite sport, the entire line of smartly packaged BATTER-UP men's toiletries are brandmarked with Meyercord Decals, for permanent, attractive identification. Photos courtesy of Sportline, Inc., New York, N. Y.

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The Cosmetic Trend

Inquiries disclose that few of the larger stores contemplate making special seasonal promotions of toilet goods this year, excepting the usual emphasis upon "gifts from the cosmetic counters" at Easter, Mother's Day and Father's Day. Buyers are generally inclined to let the customers establish their own peaks. There is a widespread feeling that the demand for toilet goods is satisfactory, as it is, and does not require additional support. Consideration, though, is given the problem, whether it will be a good policy to leave the market entirely without guidance. While occasional shortages are taken without complaint by the customers it is not a wise plan to strain their will to cooperate beyond what is necessary. Stores have begun, for this reason, to go slow on items where deliveries are uneven. No attempt is made to switch customers as long as the article is still actually in stock. But there is a tendency to push those where the supply is ample and to start new customers off with well-stocked numbers, in the desire to spread the demand upon a wider range of similar items. This is rather different than in pre-war days, when counters pushed the quick moving articles. It is now the slow moving one often that gets the spot light.

Active advertising support of the affected items after the war, or as soon as their present production difficulties are past may re-establish them upon their pre-war position in the cosmetic markets. For the present, there is no denying, however, that quite a number of preparations are talked-up by the counters of even large stores which would not have much of a look-in only a few months ago. Perfumes, often of merely local reputations, are in the lead of this procession of happy war-babies.

There is also the question of what to do with the many products that have reached the counters to replace standard items, which can not be supplied in accustomed quantities, or of pre-war quality.

For a while these articles were received with wide open arms and had all the support given that could be heaped upon them. Now buyers begin to wonder whether these novelties are really all so wonderful as they have been telling the customers.

No doubt there is much good among occupational cosmetics which will deserve preserving in the post-war period. But the fact remains that the old-established lines have contributed at least 90 per cent to last year's sales and that there is little reason to expect that they will not maintain their position. What bothers buyers is how they can separate the good from the mere indifferent. Both make a valuable contribution to sales today but store executives have not forgotten that only a couple of years have gone by since they were worrying about an overload of cosmetic preparations upon their counters; many duplicating each other.

Probably things will be permitted to take their own course. As the millions of women, who are now working in factories, return to their homes after the war, there will be automatically a decline in the demand for industrial protectives. Only those of universal appeal to homemakers, gardeners, etc. will be retained. Customers' preferences will decide.

However, there is a note of warning to cosmetic manufacturers in this situation. If they have any pet product that grew from the war and which they want to see projected into the post-war market they better get busy now in building it up with the customers. Otherwise they may find it swept off the cosmetic counters during the general prepeace housecleaning that is looked forward to by an increasingly large number of buyers.

More Department Store Cosmetic Buying

Most significant beauty trend of the past three years is the increasing importance of cake make-up preparations, according to the Fawcett Beauty Reader Forum anniversary edition, released today. There has also been a steadily upward trend in department and drug store cosmetic buying, with some decrease in syndicate store purchases.

The 1940-41 survey showed 12% reader usage of cake make-up. During the 1941-42 season, 19% of the make-up base devotees had accepted the new foundation; in 1942-43 the total had leaped to a high of 37%, a usage increase of 25% in three years.

In 1940-41, 98% of all the readers questioned considered the lipstick an indispensable cosmetic. During the following seasons, the total moved up to a 99% level.

Nail polish is popular, too; 97% of the surveyed readers include it regularly in their beauty routine. Though many women receive such luxury items as bath powder, bubble bath, and cologne on gift occasions, increasing numbers are purchasing these cosmetic accessories for their own use.

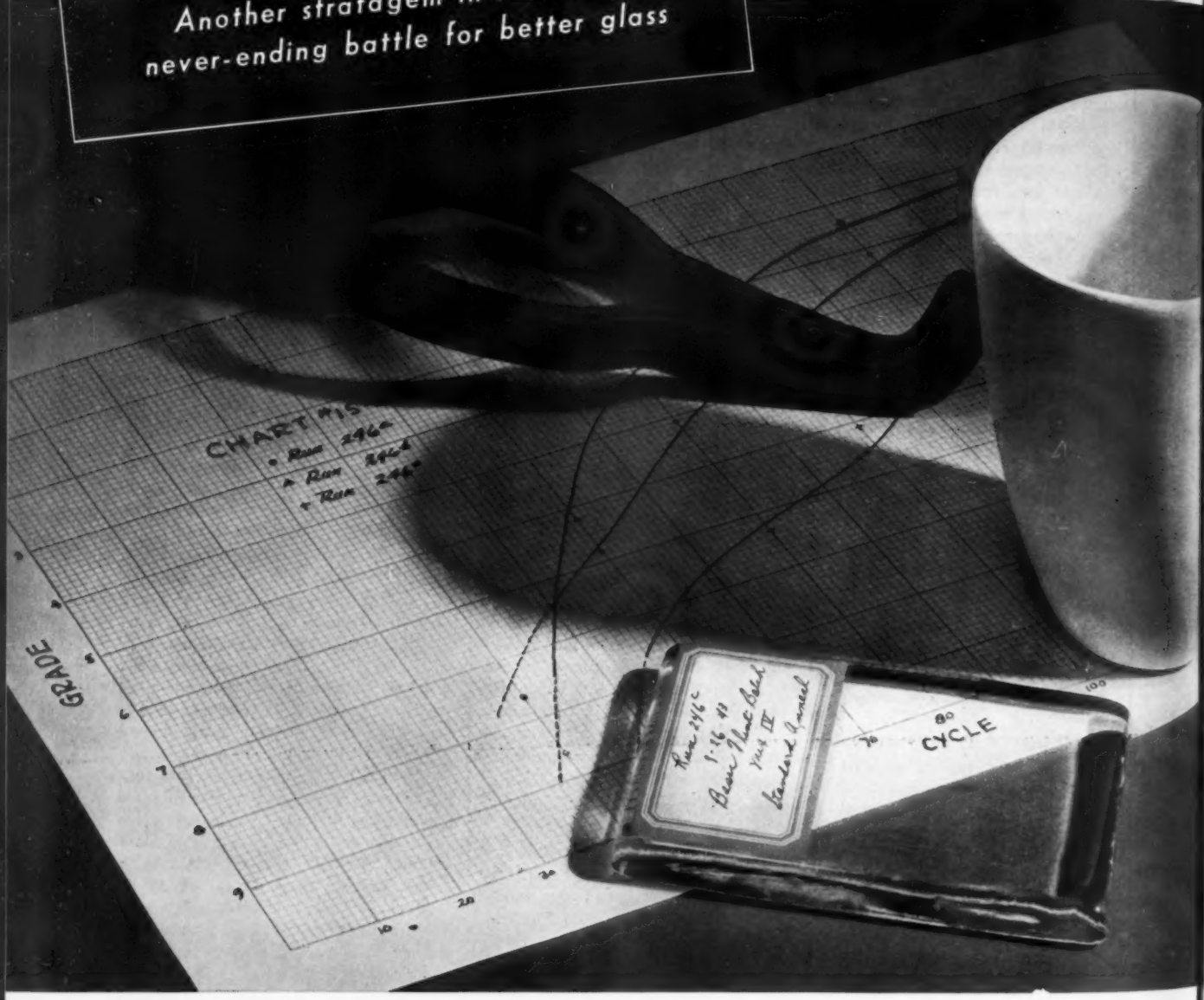
Collapsible Tubes

The announcement concerning the resumption of production of aluminum collapsible tubes fell with something less than thunderclap effect. This is not to say that there aren't a great many manufacturers who will be glad to get aluminum tubes again, but, as a result of the war, the lead tube with coating has become pretty much standard among the large consumers of tubes. And yet it seems like only yesterday that there was much criticism of any dentifrice manufacturer who packaged in a lead tube even if it was tin coated. By now the coatings which have been developed may be even better, but in any case, it looks like the lead tube is here to stay unless tin or aluminum can be competitively priced.

Which is also not to say that any aluminum tubes will go begging for some time to come. In the first place capacity is limited by available manpower and, in the second place, nothing goes begging these days. Plenty of people with plenty of tubes are going to order a few thousand gross more just in case. The point is, however, that 75 per cent of the tube business is in dentifrices and shaving creams and by this time most of the manufacturers are perfectly satisfied with lead tubes and besides the package costs less when it's in a lead tube. With the lead poison ghost laid, thanks to several years of lead tubes, it is extremely doubtful if the bulk of this business will ever go back to tin or aluminum unless and until tubes of those materials sell on a competitive price basis with lead. Which, in the case of aluminum may well be possible if half the stories about the present size of aluminum productive capacity are true.

. . . SO THEY CALLED FOR A "GAS ATTACK"

Another stratagem in research's never-ending battle for better glass



WHEN the ingredients for making glass are melted, gas is formed. Its movement to the top of the batch stirs the glass and helps "sweep out" tiny bubbles.

Some time ago, Armstrong's glass chemists decided to extend the existing knowledge of the effects of gas action on the uniformity and clarity of glass. They added gas-forming chemicals to the batch. So far in this "gas attack," they have made *287 different batches* of glass. Each had to be mixed in crucibles, melted in Armstrong's experimental furnaces, poured into molds, and the resulting slabs of glass exhaustively tested.

This project is typical of many lines of research being constantly carried forward by Armstrong's glass chemists and engineers. Some of these tests and experiments result in important advances in glassmaking. Some do not. But all of them, when they are taken together, contribute materially to the background of scientific data and practical knowledge that helps maintain the unusually high-quality standard of Armstrong's Glass.

Armstrong's booklet, "Men and Glass," gives an interesting story of the patience, skill, and years of experience that go into the making of fine glass. For your free copy, write Armstrong Cork Company, Glass and Closure Division, 3802 Prince St., Lancaster, Pa.

ARMSTRONG'S GLASS

and **ARMSTRONG'S CLOSURES**

Cosmetic Awards

Coty, Revlon, Associated Distributors and Mary Dunhill were winners of the awards presented by *Beauty Fashion* for 1943. Coty was winner of the award for merchandising policy while Revlon won for promotion, particularly on "Bright Forecast" and the "Victory Crate." Associated Distributors lead the field as the advertising choice thanks to the high quality of Chen Yu and Tabu campaigns throughout the year, while the award for packaging went to Mary Dunhill for "Escape." Judges in this annual event, all buyers or merchandise managers of department store cosmetic departments, were J. A. Egan, Stix, Baer & Fuller, St. Louis; Carl J. Hagenah, City of Paris, San Francisco; John S. Holliday, Joseph Horne Co., Pittsburgh; T. J. Maruca, The May Co., Denver; Sally C. McCoy, R. H. Stearns Co., Boston; T. M. McDonald, The H. & S. Pogue Co., Cincinnati; I. C. Sieving, Miller Brothers, Chattanooga; Fred West, Emery, Bird, Thayer, Kansas City; and D. J. Whelan, Bullock's, Los Angeles.

Lipstick Refills

It would appear at the moment that more women prefer refills for their workable cases than to fool around with ersatz. There is no secret about the fact that war time lipstick cases have been a headache first to the supplier, then to the manufacturer, the store, and while the customer bought them cheerfully at first, she has since learned too! There are some fastidious women who can take a good looking metal case out of their bags for refill, but these are few and far between, because the average durable, metal case, still looks pretty messy after banging around a handbag for a long time. The enamel is chipped, or the metal scratched and it isn't any too prepossessing looking. So, she prefers usually to try the war time case which it must be admitted, is good looking anyway, even if it falls down in usage after a while! However, after a few experiences with paper, wood and plastic, she digs out her precious old metal case and seeks a refill. Refills of course, present a problem, too. They are apt to break along the line, and not handled properly, they may prove rather messy. Many customers demand that the refill be placed into their cases by the salesgirl which not only takes up too much of her time, but puts the burden on her if the lipstick breaks. One salesgirl had the amusing experience of refilling a case for an insistent customer who afterward complained that it was not a sanitary method and asked the girl to sterilize the stick with alcohol since she had handled it.

Fortunately, the snags in lipstick cases are gradually being ironed out and if the supply can meet the demand, somewhere along the line the lipstick problem will be lessened. In the meantime, refills seem to do a good job of filling the gap.

"Cheeks"

"Cheeks," Pond's dry rouge, now comes in a graceful case of paperboard in the dreamflower pattern—a miniature of Pond's powder box. This flower pattern, designed from a 17th century brocade, now carries through in the powder, rouge and lipstick packages, and the labels of Pond's freshener and cream lotion. Pond's "Cheeks" rouge was formerly marketed in plastic cases, which are still available. Both the Dreamflower paper case and the plastic case retail for 10 cents.

"Air Cargoes"

Post-war shipment by air is the subject of a 44-page, well-illustrated booklet which has been published by Robert Gair Co., Inc., New York, 17, N. Y. It is directly related to post-war business and should be particularly interesting to the drug and cosmetic industry where it is likely that there will be great development in shipping by air. Copies of this booklet are available upon request to the company.

That Good Business

At least partial explanation of the good business everybody is doing lies in the fact that a great many family groups whose income was previously under $2000 a year are now doing considerably better. Approximately a million family groups have thus prospered, according to a survey made by Macfadden Publications, which estimates that out of 20,597,000 such units, 8.9 per cent earn above $5000; 18 per cent between $3000 and $5000; 32 per cent between $2000 and $3000; 11 per cent under $1000.

Packaging Show

Exhibits of wartime packaging, packing and shipping, together with developments which will be available after the war, will be on view at the 14th Annual Packaging Exposition sponsored by the American Management Association, to be held at the Palmer House, Chicago, March 28-31.

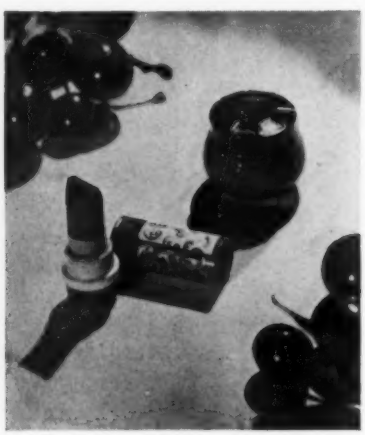
This year's exposition, which is expected to draw about 9,000 executives whose work is concerned with packaging, packing, and shipping, will be the largest in the Association's history. It will occupy all of the hotel exhibition hall and the Red Lacquer Room as well, extra space having been obtained because of the number of exhibitors and the size of the displays. More than eighty companies will exhibit.

Concurrent with the Exposition, the Association's Annual Packaging Conference will be held, with speakers from government and industry. Changes in government specifications for overseas packing, post-war uses of wartime substitutes, trends in merchandising that will affect packaging in the post-war period, the re-use of containers and paper conservation will be among the topics. In addition, there will be an address on the organization and operation of a packaging department.

Sessions are being planned under the direction of Joseph Givner, merchandising executive, R. H. Macy & Co., and M. C. Pollock, sales promotion manager, Cellophane division, E. I. DuPont de Nemours, is chairman of the Exhibitors' Advisory Committee.

Double Duty

Yardley has introduced a new refill that fills two bills—it may be used as is or the lipstick removed and fitted into a Yardley Bond Street metal case—provided the customer still has one! The case is colorful, durable, lacquered wood and paper which holds the regular dollar size lipstick, but in the refill case it sells for sixty cents. The trick part is the collar of wax paper, perforated in rows, which acts as an extra stabilizer when the stick is kept in its present container, or, as a protector of clean fingers if the stick is lifted out to be put in the standard metal case. The perforations are not a whimsey either, for as the lipstick is used up, a portion is torn off starting at the top. When putting the stick in the metal case, of course, the bottom band is torn off and the stick inserted into the case, and then the rest of the paper may be removed. The lipstick comes in the following fashion shades: Cherry, Vivid, Holly Red, Red Burgundy, Full Red, and Red Fuchsia.



Plastics after the War

Of the plastics and resins commonly used, vinyl, styrene, acrylic, phenolic and cellulose acetate, in that order, will show the most marked growth after the war according to a survey made by "Barron's." Urea, lignin, alkyd, and casein follow, while the most marked decline will be in cellulose nitrate, according to this same source.

Cosmetic Sales in 1943

In a copyrighted story in its February issue, *Beauty Fashion* announced its annual estimate of cosmetic sales figures for 1943 as $594,729,000. Under the title, "The Record for 1943," the complete story read as follows:

"Sales were no problem in 1943. They were limited only the the capacity to produce and deliver merchandise. For in the face of an unprecedented demand, the chief problems were to turn out goods within wartime restrictions and to secure and maintain an equitable system of distribution. If and when the difficulties of supplies, transportation and manpower were overcome, and the merchandise reached the retail counter, it was certain to disappear like magic before a purchasing power of phenomenal proportions. Under these conditions no records could stand, sales totals mounted month by month and by the year's end had reached a new all-time high of some $594,729,000.

"Although sales of all classes of products were up, preliminary reports indicate that the perfume business was in a class by itself. There were two reasons for this. In the first place, the 50 per cent limitation upon the use of alcohol was responsible for forcing promotional emphasis back on the perfume itself and off the colognes and toilet waters. In the second place, the times themselves favored this change, for purchasing power confined as it was almost wholly to luxury and non-durable goods, flowed to the perfume counters and swept away practically everything that was placed upon them.

"Aside from the alcohol limitation, the chief handicaps in 1943 were the 65 per cent limitations upon glassware and shipping containers. Manpower and shipping shortages were also felt increasingly in both manufacturing and retail fields.

"But all obstacles were overcome as the industry strove to meet, in some degree, the tremendous demand for its products. The $594,729,000 total meant that sales of creams increased to about $68,200,000, while perfumes, toilet waters, and colognes probably accounted for another $64,973,000. Face powder volume amounted to about $54,200,000, with lipsticks contributing another $21,400,000 and manicure preparations $16,380,000."

"Vitasurance"

The Special Formula Corp., distributor of the "Consumers' Special" products has introduced two new vitamin items under the trade name "Vitasurance." They are planned primarily for department store distribution. The two versions of "Vitasurance" are distinguished by the packages. The green package contains 24 B-complex tablets and retails for 50 cents. The brown package contains 30 vitamin-and-mineral tablets and retails for 50 cents. According to the Special Formula Corp., both of these items represent an unusual value for the consumer in their potency.

NEWS

Companies

C. S. Beardsley Heads Miles

Charles S. Beardsley has been elected president of the Miles Laboratories, Elkhart, Ind., succeeding his brother, the late A. L. Beardsley. Mr. Charles S. Beardsley, a former president of the Proprietary Association, has been serving as vice-president in charge of sales and advertising. Frank B. Miles has been elected treasurer of the company.

Felton in Mexico City

Felton Chemical Co., Inc., has opened a branch in Mexico City in order better to serve its Mexican customers. In charge of the office as well as of its Mexican business in general, is J. Alvarado Lang, a chemical engineer of the National University of Mexico. Julian R. Fonts, of the Brooklyn home office, spent two months in Mexico supervising the opening of the new branch and taking care of the special requirements of some of the larger customers in that territory.

Familex Buys Plant

The building owned by Procter & Gamble of Canada Ltd. at 1600 Delorimier Ave., Montreal, and formerly occupied by Barsalou Soap, has been acquired by the Familex Products Co. Romeo Parent, proprietor of Familex Products Co., has announced that the building which is on a plot of ground 200 by 200 will make available 60,000 square feet of space for the manufacture of the pharmaceutical, toilet, farm and culinary specialties which Familex Products sells directly to the consumer.

The plant which is being vacated will be transformed by the National Housing Administration into homes for war workers.

American Home Buys Duff

P. Duff & Sons, Inc., Pittsburgh, Pa., has been acquired by American Home Products Corp. through an exchange of capital shares. The company which was founded in 1867 by Robert Peel Duff and his brother-in-law, Edward A. Kitzmiller, manufactures gingerbread mix and several other baking mixes.

The present management and personnel of the Duff organization will remain unchanged. John W. Weibley is chairman, William H. Duff 2d is president, John D. Duff is vice-president, and C. A. Harmeier is secretary and treasurer. The directors include Frank Kitzmiller and Capt. Edward A. Kitzmiller 2d, direct descendants of the company's co-founder, and F. F. Tudor.

Arner Drops New York Office

The New York City sales office of the Arner Co., Inc., was discontinued February 1. Business is now being handled from the company's main office at 303 Michigan Ave., Buffalo 3, N. Y.

N. Y. Q. Retains Randall

New York Quinine & Chemical Works, Inc., Brooklyn, N. Y., has retained Dr. J. W. H. Randall as chemical consultant and technical advisor to the sales department.

During World War I, Dr. Randall was engaged in building and operating plants for the manufacture of acetone for the U. S. Army Air Corps.

For the past twenty years he has acted as consultant on synthetic plastics, oil refining, vegetable fats, laminated glass, distilling, pharmaceuticals, medicinals, hormones, etc.

J. W. H. RANDALL

Since the start of the present war, Dr. Randall has acted as a senior gas officer for the O.C.D., training civilians in protection against possible gas attacks. He is a member of the American Chemical Society; fellow of the American Institute of Chemists; treasurer of the Society of Chemical Industry; and life member of the Chemists' Club of New York.

AROMATICS

SYNTHETIC

Beauty is well served by enticing fragrance and alluring scents. Perfumes and cosmetics gain materially in quality and distinction through Dow's long experience and technical facilities in the production of Synthetic Aromatics.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

Vanguard Labs. Celebrates 10th Year

Vanguard Laboratories, Portland, Oregon, completed its tenth year of business on January 1, and celebrated the anniversary with a dinner at the Imperial Hotel, Portland.

Roure-Dupont Appoints Neville

Roure-Dupont, Inc., has appointed Edgar Neville its representative in Chicago and the midwest, succeeding the late Russell G. Brown. He will make his headquarters at 510 North Dearborn St., Chicago. Before joining Roure-Dupont, Inc., Mr. Neville had been associated with Procter & Gamble, Inc. in Chicago for twenty-six years.

Abbott Memorial Used for War

Despite the fact that the dormitory built on the Chicago campus of Northwestern University with the money from the Abbott Memorial Fund, which was given to the university for the advancement of medical, surgical or chemical science, was turned over to the government as a dormitory for men attending the midshipmen's training school, the original purpose of the donors of the fund was carried out. A report of the administration of the Abbott Memorial Fund which has just been issued shows that through income from the building, the university has sponsored eleven research projects in the field of medicine during the past year. Among the projects listed in the report are: Fatigue and Vitamin Deficiencies in Human Subjects; Blood Plasma Substitute; Healing of Bone Grafts; Relation of Anoxia to Brain Injury; The Effect of Diet on Tolerance to Anoxia.

VANGUARD TENTH ANNIVERSARY CELEBRATION

Hilton Joins Wm. E. Martin

Arthur A. Hilton has become associated with the William E. Martin Co., New York, importer and jobber in drugs, spices and chemicals. Mr. Hilton was for twenty-two years manager of the St. Louis branch of the New York Quinine & Chemical Works.

Consolidated Royal Names Wruck

George T. Wruck has been appointed director of advertising of the Consolidated Royal Chemical Corp. of Chicago, according to an announcement by James A. Hirschfield, president of the company.

Nutrition Labs. Names McGee

Donald L. McGee has been made assistant advertising manager of Nutrition Research Laboratories, Chicago, manufacturer of Ertron and Bezon. He was formerly with the Bureau of Advertising of the A.N.P.A., Chicago, and for seven years prior to that was advertising manager of the Ideal Dog Food Division of Wilson & Co.

Hooker Sales Changes

Hooker Electrochemical Co. has made Thomas H. Trimble its sales representative in the eastern middle Atlantic territory with headquarters at the New York office, 60 East 42 St. Mr. Trimble has been associated with the sales department for eight years, chiefly in the upper New York state and western Pennsylvania territory.

Ralph E. Davis, Jr., succeeds Mr. Trimble in the upper New York state and western Pennsylvania area. He will make his headquarters at Niagara Falls, N. Y., and in addition will continue his special technical service work with the leather industry, including principal tanneries in the entire eastern area. Mr. Davis joined the Hooker company in 1941.

Emery Industries Book

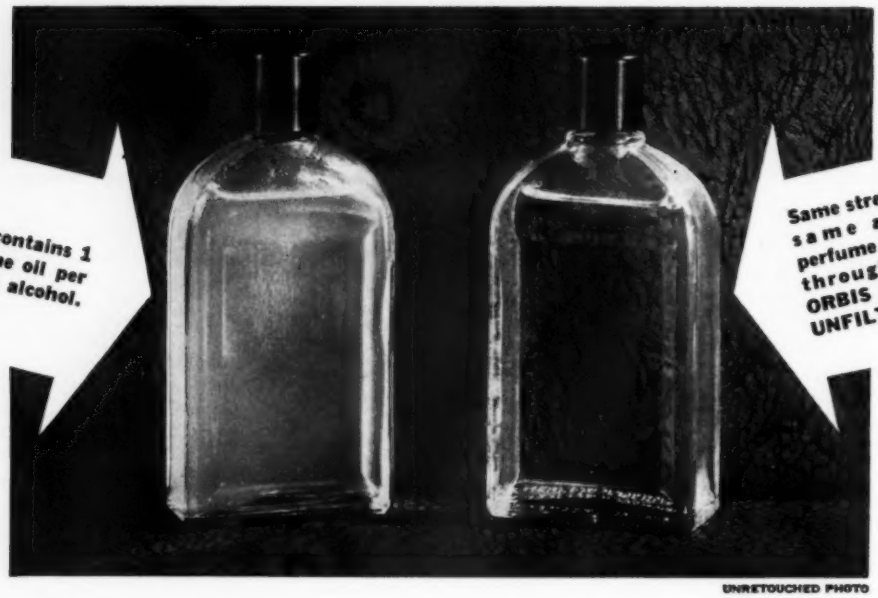
An informative new handbook on fatty acids and their derivatives has been published by Emery Industries, Inc., Cincinnati.

The new "Emeryfacts" brings together, in a handy working arrangement, data on the derivation and chemical nature of fatty acids, their compounds, and several tables illustrating many of their commercial applications. In addition, this handbook tabulates the specifications and characteristics of Emery's fatty acid products.

S. DeWitt Clough, president and general manager of Abbott Laboratories and Charles S. Downs, advertising manager, discuss the striking Fourth War Loan poster, "Let 'Em Have It," by the distinguished artist, Bernard Perlin. Commissioned as a cover design for the company's medical house magazine, the poster is currently driving the message of the new War Loan home to all Americans through store windows, billboards, car cards, newspapers and magazines throughout the Nation. This is the third consecutive time an Abbott painting has been reproduced as the official poster for the United States Treasury Department's War Loan Drives.

MANUFACTURERS OF **BAY RUM, LAVENDER, LILAC and QUININE TYPE TONICS** and After-Shave Lotions will be especially interested in

ORBIS ALCOH-SOLS


This bottle contains 1 ounce perfume oil per gallon of 25% alcohol.
Same strength alcohol, same amount of perfume introduced through medium of ORBIS ALCOH-SOL. UNFILTERED.

UNRETOUCHED PHOTO

Their complete solubility in dilute alcohol of 15 to 25% concentration eliminates the somewhat tedious and troublesome filtration operation.

ORBIS ALCOH-SOLS are free from sulphonates and sulphonated products and are non-reactive with chemical ingredients in these tonics and lotions.

ALCOH-SOLS in the four odors mentioned impart almost perfect coverage to Isopropyl Alcohol.

A request on your letterhead will bring full information about these and other odors in our full line of ORBIS ALCOH-SOLS. They are saving alcohol for others---they will for you.

ORBIS

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Water Soluble Gums	Waxes	Cosmetic Raw Material	Fruit Flavors
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Aromatics	Essential Oils	Perfume Bases	Quince Seed
Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss

Executives, merchandisers and special representatives of McKesson & Robbins, Inc., at Bridgeport research laboratories and manufacturing plant.

McKesson men in the picture include J. H. Abercrombie, Atlanta; D. E. Adams, Omaha; John W. Allen, Dallas; H. A. Babcock, Bridgeport; W. O. Bacon, Bridgeport; E. J. Baker, Kansas City; I. H. Bander, New York; Al B. Benson, Boston; William Bless, Columbus; Howard J. Bolton, Detroit; W. E. Bomar, Bridgeport; W. T. Bomar, Nashville; H. F. Brownell, Bridgeport; Frank L. Capers, Tampa; B. S. Casner, Albany; R. V. Coghlan, New York; A. O. Conway, Bridgeport; W. E. Dewell, Bridgeport; W. F. D'Olive, Mobile; A. G. Dooley, Chicago; A. N. Dow, Omaha; A. M. Goetzman, Rochester.

Also Harold Hagstrom, Tacoma; Ray C. Haines, Pittsburgh; Leo Hannon, Chicago; M. P. Herschberg, Philadelphia; F. G. House, Cincinnati; J. L. Hughes, Birmingham; J. F. Jennings, Dallas; Charles Kelly, St. Louis; Fred Kerslake, Akron; B. B. Klebanoff, Philadelphia; Charles Klinkhammer, Los Angeles; Leo F. Langefels, Cincinnati; J. I. LeVant, Chicago; Harry Littwin, Washington, D. C.; Larry Lohr, Phoenix; Felix Maniscalco, New Orleans; W. J. McCormack, Baltimore; Ralph McEldowney, Bridgeport; W. M. Mueller, New Haven; Robert Ometer, Cleveland; Dr. A. L. Omohundro, Bridgeport; Chet R. Orchard, Peoria; Ben Payne, Memphis; O. L. Rafuse, Buffalo.

Also W. H. Robinson, Bridgeport; J. J. Rosenman, Brooklyn; George Snyder, Detroit; Albert Stephens, Dallas; W. E. Thompson, Springfield; H. Van Drooge, Bridgeport; L. M. Van Riper, New York; Barney Weissman, Brooklyn; John White, Bridgeport; A. A. Wilcoxson, Bridgeport; M. G. Williamson, Chattanooga; Louis Wolf, Brooklyn.

Connolly Joins Helfrich

Arthur J. Connolly for eighteen years with Harold F. Ritchie & Co., and more recently with Horlick's Malted Milk

ARTHUR J. CONNOLLY

Corp., has been appointed general manager of Helfrich Laboratories of N. Y., Inc. Mr. Connolly is secretary-treasurer of the Foragers of America.

Lady Hilda Moves

Edward A. Sport, manufacturer of "Lady Hilda" beauty aids, has announced that after April 1, his laboratory which has heretofore been in Cambridge, Mass., will be located in South Weymouth. The new address is 17 Graham St., South Weymouth 90, Mass.

Matchabelli Officials

At a meeting of the board of directors of Prince Matchabelli, Inc., the following new officers were elected: chairman of the board, E. L. Mabry; president, Norman Dahl; executive vice-president, L. V. Talamini; and vice-president, Jean Coxe.

Atlas Advances Dr. Goepp

Dr. R. Max Goepp, Jr., has been appointed director of organic research, responsible for the pioneering research on organic chemical products, it has been announced by M. J. Creighton, director of the industrial chemicals department of Atlas Powder Co.

Dr. Goepp, who joined Atlas in 1932 as a research chemist, was graduated from Lehigh University and took his doctorate at Oxford University in England. His work has been mainly in the field of carbohydrate chemistry, and he is past-chairman of the sugar division of the American Chemical Society.

Grove Labs. Appoints MacFarland

Grove Laboratories, Inc., St. Louis, has announced the appointment of Gene B. MacFarland as director of the newly created marketing research division. While with the St. Louis Globe-Demo-

GENE B. MACFARLAND

crat, Mr. MacFarland originated its "Food Inventory Study" which is being continued on a permanent basis, at an approximate cost of $30,000 annually. Previous to the year and a half that he was with the Globe-Democrat as director of sales research, Mr. MacFarland had served as director of store audits with Industrial Surveys for a year.

"Super" Flavor for Your Postwar Sales Success

Whether you are looking to candy or cookies, or any of scores of foods or beverages, to bring you post-war sales success, we believe it will pay you to look at Ethavan *now*.

Ethavan, vanilla-like in taste, imparts a flavor that your customers will say is "super"! Products with Ethavan have a pleasing aroma, and, with its flavoring strength approximately three times that of vanillin, Ethavan is economical to use.

Complete information on Monsanto Ethavan will be sent promptly upon request. MONSANTO CHEMICAL COMPANY, Organic Division, 1700 South Second Street, St. Louis 4, Missouri.

ARMY E NAVY

MONSANTO CHEMICALS

SERVING INDUSTRY...WHICH SERVES MANKIND

Ethavan

(Ethyl Vanillin)

THE SUPERIOR FLAVORING MATERIAL

Kohnstamm Sales Meeting

H. Kohnstamm & Co. held its annual sales meeting December 27, 28 and 29 at the New York offices and Brooklyn plant. At that time it was revealed that, while developing new flavors to be introduced as soon as wartime restrictions are lifted, the laboratory has created a number of new flavors which can be offered to the trade in the very near future.

Sonneborn Seeks Job Preferences

A questionnaire to determine postwar preferences of its 150 employees in the armed services is being prepared by L. Sonneborn Sons, Inc. The questionnaire will seek information on specialized military training which may equip employees for work of a different nature than that performed for the company before entering service. The individual's specific preferences for future work and his own opinion of the type of job he now feels he can do best for the company and for himself will also be given full consideration.

In the announcement the Sonneborn employees are also urged to invite interested fellow service men and women to send in their applications now for possible peacetime employment at the company's headquarters in Petrolia and Franklin, Pa., its plant and laboratories in Nutley, N. J., or any of its branch offices throughout the country.

Naylor Named Owens Can. V. P.

James E. Naylor, manager of the legal department of the Owens-Illinois Glass Co., Toledo, has been elected a vice-president, secretary and a director of the Owens-Illinois Can Co. Mr. Naylor, who has been associated with Owens-Illinois since 1931 will take an active part in the management of the can company and will direct legal, contractural and patent matters.

Mr. Naylor, a native of Beloit, Ohio, was graduated from the Mount Union College, Alliance, Ohio, and received his law degree from Western Reserve University at Cleveland. He engaged in the private practice of law in Toledo for five years before joining Owens-Illinois Glass Co.

Schimmel Price List

Schimmel & Co., Inc., New York, has issued a new booklet, "Price List X," which covers the essential oils, aromatic chemicals, resinoids and extrols, oleoresins and concentrates, which are handled by the company. Copies of the list are available upon request to Schimmel & Co., Inc.

Present at the Kohnstamm sales meeting were: E. A. Pfeiffer, R. Carmel, R. H. Pulver, E. M. Moss, F. V. O'Neil, W. D. Harrison, C. Biddison, Justin Pulver, W. H. Nelson, A. Vogel, J. Sloane, H. Phillips, H. Anderson, A. J. Torter.

Warwick Names Murray V. P.

Walter E. Murray has been elected a vice-president of the Warwick Chemical Co., West Warwick, R. I. Mr. Murray joined the company two years ago as sales manager of the textile chemical department. In October 1943 he was made manager of the department.

American Can Advancements

Three executives have been named to new offices in the American Can Co. it has been announced by D. W. Figgis, president. R. L. Sullivan has been made vice-president in charge of the Atlantic division; W. J. Wardell, comptroller, named vice-president and comptroller and W. C. Stolk, vice-president in charge of sales.

Mr. Sullivan started with the company in the Chicago office in 1901. Mr. Wardell joined the company in 1904 and became comptroller in 1941. Mr. Stolk started with the company first in 1918 and rejoined it after service in the first World War. Early in 1939 he was made manager of the general line sales and succeeds C. H. Black, recently elected executive vice-president of the company.

Colgate Names Hilbrant

Robert E. Hilbrant has been named sales manager of the toilet goods division of the Colgate-Palmolive-Peet Co., Jersey City. Mr. Hilbrant has been with the company since 1924 and was most recently manager of the new products department.

Rosenberger Heads Phila. Exchange

The Philadelphia Drug Exchange held its eighty-third annual meeting January 25. Ray G. Anderson, president of the association, reported on the year's activities. The membership of the exchange was increased by twelve during the year to a total of 117 and the financial condition enabled the exchange to buy another $500 war bond. Officers for the following year were elected as follows: president, J. Mervin Rosenberger, Smith, Kline & French, Inc.; vice-president, Charles E. Vanderkleed, McNeil Laboratories, Inc.; secretary, E. F. Schafer, Owens-Illinois Glass Co.; and treasurer, Harold C. Holberstadt, Shoemaker & Busch, Inc.

The directors are: George F. Applin, Mallinckrodt Chemical Works; Ray G. Anderson, Merck & Co.; E. L. Brendlinger, Dill Co.; R. A. Cain, Sharp & Dohme Inc.; A. B. Collins, Malcolm W. Cox, Eli Lilly & Co.; S. F. Durst, S. F. Drust & Co.; Frank F. Law, John Wyeth & Bro., Inc.; Bruce Ludgate, Armstrong Cork Co.; Walter P. Miller, Jr., Walter P. Miller Co.; John Walton, Philadelphia Wholesale Drug Co.

The exchange held its annual banquet January 27, preceded by a cocktail party and followed by a vaudeville show.

Heyden Gets Army-Navy E

The Cherokee Ordnance Works plant of the Heyden Chemical Corp., Danville, Pa., was given the Army-Navy "E" Award for excellence in war production, February 3. The award was accepted by Bernard R. Armour, president of Heyden Chemical Corp., and Blythe M. Reynolds, general manager for the company.

Edward G. Miner, chairman of the board of The Pfaudler Co., Raymond Napierala, Brig. Gen. Ray L. Avery and Lt. Comdr. Douglas A. Elliott, USNR.

Cheplin Adds Scientists

Cheplin Biological Laboratories, Inc., Syracuse, N. Y., division of Bristol-Myers Co., has announced the appointment of six new members of its scientific staff.

Amel R. Menotti, Ph.D., formerly a member of the staff of the Chemical Laboratory of the Council on Pharmacy and Chemistry of the American Medical Association has been named director of laboratories.

George Valley, Ph.D., formerly assistant professor of bacteriology, Yale Medical School, heads the department of bacteriology, assisted by George Hunt, Ph.D., formerly bacteriologist at St. Louis City Hospital, and Robert Muir, Ph.D., former instructor in bacteriology and immunology at the St. Louis School of Medicine.

Douglas Cooper, Ph.D., has been assigned to the study of the extraction and purification of penicillin. Neulon Deahl, B.S., formerly assistant chief chemist and director of the analytical laboratories of Parke, Davis & Co., has been placed in charge of control and analytical work.

Aridor Appoints Rollins

Aridor Co., Chicago, has appointed Paul D. Rollins, assistant sales manager, supervising the central and southern sales offices. James N. Davies has been appointed eastern district sales manager in charge of the New England, New York, New Jersey, Pennsylvania, Maryland and District of Columbia territory.

W. J. McManus Joins Wyeth

William J. McManus has resigned as chief of the Penicillin and Drugs Facilities Unit of the Chemical Bureau of the War Production Board, to become chief engineer for Wyeth, Inc., one of the twenty drug firms now engaged in the production of penicillin.

Gauer Heads Chicago Ass'n

Joseph A. Gauer, manager of the Chicago office of Fritzsche Brothers, Inc., has been elected president of the Chicago Perfumery, Soap and Extract Association. For 1944 Mr. Gauer has mapped out a plan that includes membership growth, business, athletic and social activities, and a business relations program which, he feels will be of immeasurable benefit to the industry sectionally and nationally under wartime conditions.

JOSEPH A. GAUER

People

Prentiss Advanced to Major

Richard J. Prentiss on leave of absence as president of R. J. Prentiss & Co., Inc., New York, has been promoted to a majority in the Sanitary Division of the Medical Corps. Major Prentiss is at present stationed in Washington, attached to the office of the Surgeon General, U. S. Army.

George Pegg Opens Office

George W. Pegg, Ph.C., formerly with Wm. R. Warner.& Co., has opened an office as a consultant. He will assist in development of formulas for drugs, cosmetics and flavoring extracts; improvements in processes of manufacture; preparation and revision of labels; advice on industrial alcohol tax claims and reports; state and municipal technical requirements regarding registrations, licenses and permits.

GEORGE W. PEGG

Mr. Pegg's office is at 152 West 42 st., New York 18. The telephone is Wisconsin 7-3066. In Washington, the address is 2121 Virginia Ave., Washington 7, care of Dr. George W. Hoover.

Lt. G. W. Merck, Jr. Cited

Lieut. (j. g.) George W. Merck, Jr., U. S. Naval Reserve, son of George W. Merck, president of Merck & Co., Inc., Rahway, N. J., has been cited by Admiral W. F. Halsey for his performance of duty while in charge of a twin gun mount during a dive bombing attack on his ship in the South Pacific.

The citation read, "For skillful and effective performance of duty under adverse circumstances while serving as Officer in Charge of a forty millimeter twin gun mount on board a destroyer which was subjected to an enemy dive bombing attack on August 15, 1943. Lieutenant Merck was the first to give warning of the approach of the enemy,

and with the vessel maneuvering radically at extreme speed, he so calmly and adequately directed the fire of the guns which he commanded that the first bomber was struck and set on fire by projectiles from his guns and crashed in the sea alongside his ship. The second bomber was hit and deflected and the third was destroyed by crashing as a result of his gunfire. The fifth of the six attackers was also hit and damaged. Fire of his gun mount was continuous, rapid, and effective, although bombs burst very close aboard and two planes crashed close to the ship. His conduct was in keeping with the highest traditions of the United States Naval Service. (signed) W. F. Halsey, Admiral, U. S. Navy."

Lieut. Merck's brother, Albert, is a First Lieutenant in the Field Artillery now serving in the Solomons area.

S. B. Penick, Jr. Weds

S. Barksdale Penick, Jr., president of S. B. Penick & Co., was married January 22 to Miss Elizabeth Van Wie, daughter of Mrs. Frank Leslie Van Wie. The marriage took place at Saint Luke's Chapel, Montclair, N. J.

Carson G. Frailey Now Major

Carson Gray Frailey, son of Carson Frailey, Washington representative of the American Drug Manufacturers Association, has been promoted to major in the Army of the United States. Major Frailey is assigned to the Surgeon-General's office and is stationed at Savannah.

Barton Retires from Whitall-Tatum

George Estes Barton, chief chemist emeritus of the Whitall Tatum Division plant of Armstrong Cork Co., Millville, N. J., has retired after nearly a half century of service to the glass industry.

When Mr. Barton went to the Whitall Tatum plant at Millville in 1896 and set up his laboratory, glassmaking was still being carried on largely by experienced guesswork and tradition. He was the first to substitute scientific control for the traditional rule of thumb practices in the Millville plant. He carried on a long and successful campaign to make glass more durable and chemically-resistant. He was the first in the American glass industry to use a polariscope to detect imperfections in glass which are invisible to the naked eye and as early as 1897 he developed precise volumetric standards for calibration of pharmaceutical glassware which are still in use today.

GEORGE ESTES BARTON

He developed the formulation of the glass known as "Nonsol" which was used in the manufacture of the only resistant chemical glassware available in the United States during the first World War, when European sources were cut off.

When Armstrong Cork Co. acquired the plant from the Whitall Tatum Co. in 1938, Mr. Barton was chief chemist. He continued in that position until 1942 when, at the age of seventy-one, he was retained in an advisory capacity to Dr. K. C. Lyon, present chief chemist of the plant.

Mr. Barton has been a member of the American Chemical Society since 1891, and an assistant editor of Chemical Abstracts since 1907. He has been an associate editor of the Journal of Industrial Engineering Chemistry, a fellow of the American Ceramic Society, and of the American Association for the Advancement of Science.

Associations

Miller Heads California Ass'n

Henry W. Miller of the Brunswig Drug Co. was elected president of the California Cosmetic Association at its annual meeting January 21. Other officers elected were: first vice-president, Judge Smith, Sales Builders, Inc.; second vice-president, H. R. Schmidlapp, Shor Laboratories; secretary, H. P. Willats, Colonial Dames Co.; and treasurer, Chris Nelson, Nelson Laboratories. The trustees elected were: J. B. Nethercutt, Nethercutt Laboratories; Sam Mitchell, Forty-Two Products; William Nassour, Castillian Products; and Marro Herrere, Nourishine Co.

HENRY W. MILLER

Mr. Miller went to California to become associated with the Brunswig Drug Co. about nine years ago.

A.D.M.A. to Hot Springs

John G. Searle, president of the American Drug Manufacturers Association has announced that the annual meeting will return this year to the Homestead, Hot Springs, Va. It will be held the first week in May—Monday, May 1 through Thursday, May 4.

The program will conform to the regular schedule, i. e., the special section meetings will be on the first day, Monday, May 1, and the general sessions will meet during the morning of the following three days. The annual dinner will be held Wednesday evening. The pattern of the meeting will be within the spirit of the times and it is planned to have a number of original papers on scientific medicine and to deal with other timely subjects such as rehabilitation, foreign trade, human relations, the future of medicine, etc.

A.P.M.A. Sales Meetings

The western meeting of the sales and advertising committee of the American Pharmaceutical Manufacturers' Association will be held at the Palmer House, Chicago, March 3, 1944, and the eastern meeting will be held at the Hotel New Yorker, New York, March 11, 1944. Harry L. Davis, Flint, Eaton & Co., Decatur, Ill., is chairman of the program committee for the western meeting and Edgar L. Patch, E. L. Patch Co., Stoneham, Mass., for the eastern meeting. Both meetings will be devoted to the subject, "Post-war Sales and Advertising Planning."

BIMS Holds Dinner

BIMS of New York held its annual dinner January 20 at the Hotel Lafayette, New York, with an attendance limited to 175 members and guests. A number of members were unable to be accommodated at the last minute owing to wartime restrictions by the hotel. Martin Schultes, Hewitt Soap Co., New York BIMS chairman, presided

LABORATORIES

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Quinby Building, Newark, N. J.

Mr. Douglas Haggerty,
122 E. 42nd St., New York City

Mr. Warren Curry,
2504 Alton Road, N. W., Atlanta, Ga.

Mr. Norman Kole,
980 Merchandise Mart, Chicago, Ill.

Mr. R. F. G. Byington,
1260 N. Western Ave., Los Angeles, Cal.

Mr. Richard F. Spicker,
419 West Fifth St., Cincinnati, Ohio

and there were no formal speeches. Four prizes consisting of $25 and $50 war bonds were awarded as the result of a drawing by Charles Darr of Harriet Hubbard Ayer. The prize winners were I. H. Bander, McKesson & Robbins, Inc.; F. C. Kaiser, Keller-Dorian Paper Co.; and H. B. Sliger, Commercial Solvents Corp. among the members, and E. F. Clement, J. C. Penny Co., a guest.

Heyden Names V.P.s

B. M. Reynolds, R. W. Harris, and H. G. Walter, Jr. have been elected vice-presidents of Heyden Chemical Corp., it has been announced by B. R. Armour, president. Mr. Walter has also been elected a member of the board of directors.

Mr. Armour also announced that the company has been successfully producing penicillin on a small scale since November.

Proprietary Association Ad Clinic

In conjunction with the 62nd annual convention of the Proprietary Association of America, an advertising clinic will be conducted in New York, May16. The clinic was scheduled for the annual convention by the association's public relations committee headed by Charles S. Beardsley, president of Miles Laboratories, and the program is being planned in cooperation with the association's advisory committee on advertising comprised of W. Y. Preyer, president of Vick Chemical Co., chairman; Lee H. Bristol, vice-president of Bristol-Myers Co., and Harvey M. Manss, vice-president of Sterling Drug Inc.

Rodgers Heads Plastic Assn.

The following officers of the Plastics Materials Manufacturers Association have been elected for 1944: president, James L. Rodgers, Plaskon Co.; vice-president, William Thiele, Catalin Corp.; secretary-treasurer, John E. Walker.

In addition to the president and vice-president, the board of directors includes: A. E. Pitcher, general manager of the plastics division of E. I. du Pont de Nemours & Co., Wilmington; J. C. Brooks, vice-president of the plastics division of Monsanto Chemical Co., St. Louis; J. R. Hoover, plastic material division of the B. F. Goodrich Co., and Harry Dent, president of Durez Plastics & Chemicals, Inc., North Tonawanda, N. Y.

Frank H. Carman has been named general manager of the association.

Rector Heads WPB Plastics

Clinton Rector of Rectortown, Va., has been appointed chief of the Plastics Section, Chemicals Division of the War Production Board, succeeding Frank H. Carman of Barberton, Ohio, who has taken a position with the Plastics Materials Manufacturers Association.

Mr. Rector has been connected with the plastics industry for sixteen years and for the past eighteen months has been chief of the thermosetting unit of the Plastics Section. He also served as chief of the Plastics Section.

F.W.D.A. Winter Meeting

The Federal Wholesale Druggists' Association Inc. held its third "Road Ahead Conference" at the Hotel Biltmore, New York, February 7 and 8. The conference opened with a luncheon on Monday, February 7, at which H. W. Prentis, Jr., president of Armstrong Cork Co., Lancaster, Pa., spoke on "The Post-War Challenge to American Business."

The afternoon session was addressed by Brigadier General Robert W. Johnson, chairman, board of directors, Johnson & Johnson, former vice-chairman of the War Production Board and chairman of the Smaller War Plants Corp.—"A Manufacturer Looks at Trends;" Esther Lyman, merchandising editor, Harper's Bazaar—"A Woman Looks at Merchandising Trends;" Paul Bissette, Bissette Drug Stores, Wilson, N. C., chairman, post-war planning committee of the North Carolina Pharmaceutical Association—"A Retailer Looks at the Road Ahead;" E. W. Bobst, assistant to the president Hoffmann-La Roche, Inc., chairman of committee on ways and means of the Bernays Survey—"The Signposts of the Bernays Survey."

The afternoon session was followed by a question and answer period and an informal dinner at which the Army Medical Combat Film, "The Life Line" was shown.

Speakers at the morning session on Tuesday were: Dr. Collis Stocking, chairman, essential activities committees War Manpower Commission—"Manpower;" Don G. Mitchell, vice-president in charge of sales, Sylvania Electric Products, Inc., in charge of marketing division, American Management Association—"What's Ahead for Distribution?"; Dr. Robert P. Fischelis, chief, medical and health supplies branch, Office of Civilian Requirements, WPB—"Distribution of Health Supplies to the Civilian;" Dan Rennick, editor, Drug Trade News,—"Piercing the Fog;" and W. H. Pierce, merchandising director, Northwestern Drug Co., Minneapolis—"A Wholesaler Looks at Drug Merchandising."

The last session of the conference was the luncheon session at which Saul Cohn, president, City Stores, and chairman, post-war planning committee, National Retail Dry Goods Association, spoke on "Looking Ahead in Retailing."

Montgomery Heads Essential Oil Asso.

John H. Montgomery, of Fritzsche Brothers, Inc., was elected president of the Essential Oil Association of the U. S. A. at its annual meeting at the Hotel Pennsylvania, New York, January 14. Other officers elected were: William Schilling, Jr., Norda Essential Oil & Chemical Co., vice-president; Robert S. Magnus, Magnus, Mabee & Reynard, Inc., secretary-treasurer. Frederick G. Buehler, George Lueders & Co., Inc., and V. H. Fischer, Dodge and Olcott Co., were elected members of the executive committee.

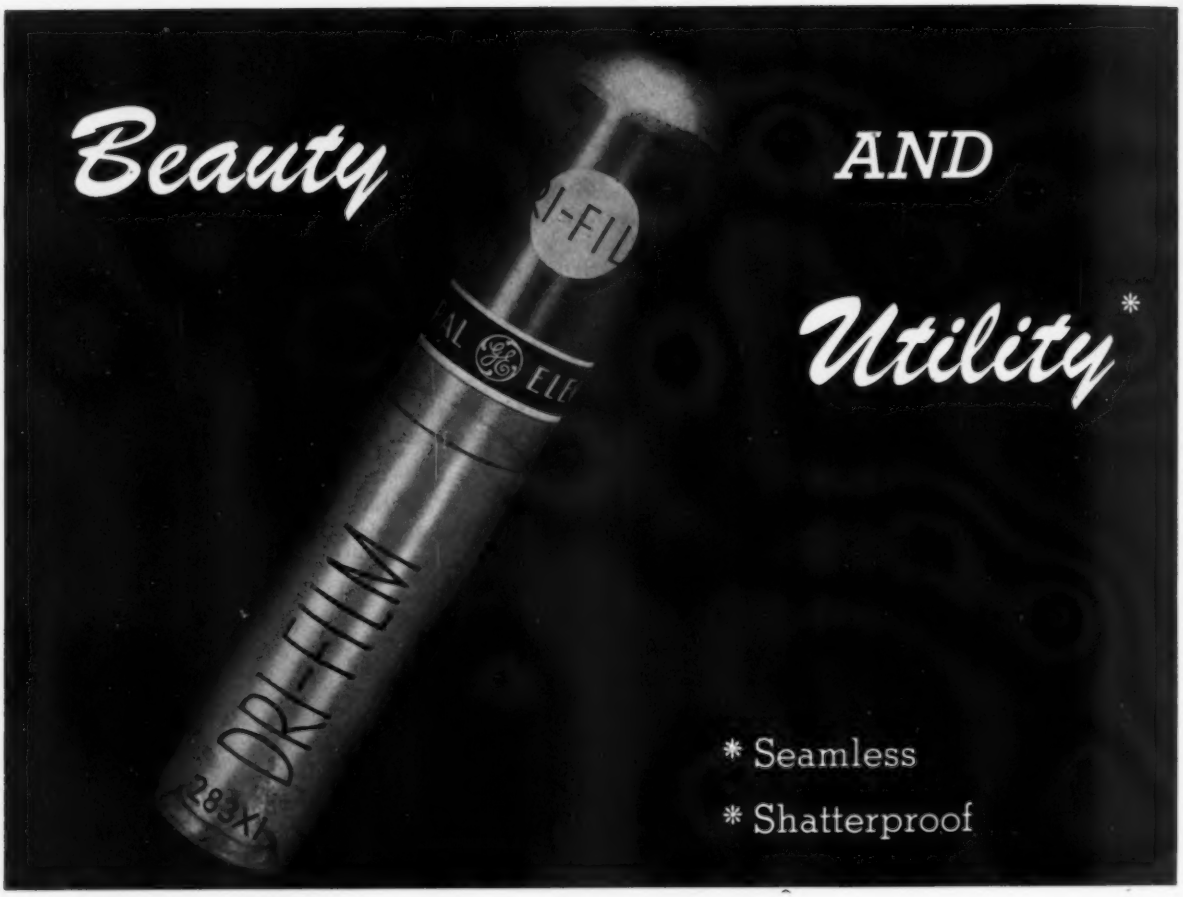
JOHN H. MONTGOMERY

Chicago Drug & Chemical Lunch

Chester M. Tobin, who has had years of experience in Turkish affairs, was the speaker at the luncheon meeting of the Chicago Drug & Chemical Association which was held at the Drake Hotel, January 27.

Associated Chain Meeting

The Associated Chain Drug Stores will hold its spring business conference at the Waldorf-Astoria Hotel, New York, March 13, 14, and 15. The meetings Monday and Tuesday mornings will be for members of the association only and the meeting Wednesday morning will be an open meeting for members and manufacturers. The mem-



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The demands made upon us for many forms of containers for Government use can be traced directly to their reputation established in Industry. Celluplastic containers helped to raise the standards of packaging in drug and pharmaceuticals, sundries, novelties, hardware, machine, instrument and watch parts and a host of miscellaneous products.

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bers will be joined by manufacturers at the luncheons which will follow the morning meetings each day. On Wednesday, the closing day of the meeting, there will be a cocktail party for manufacturers and members, followed by a banquet and entertainment in the Grand Ballroom. The afternoons have been left free so that members may call on manufacturers in the hotel.

A.Ph.A. Elects

George A. Moulton, Peterborough, N. H., has been elected president of the American Pharmaceutical Association for the coming year. Other officers elected were: first vice-president, Charles E. Wilson, Corinth, Miss.; second vice-president, Robert S. Lehman, Brooklyn; and members of the council for a term of three years, R. L. Swain, New York, Roy B. Cook, Charleston, W. Va., and Ernest Little, Newark, N. J.

Financial

American Home Increases Shares

American Home Products Corp. shareholders, in a special meeting at Wilmington, Del. approved an increase in the corporation's authorized capital shares from 1,000,000 of $1 par value to 1,500,000 shares of the same par value, it has been announced by Knox Ide, president.

Mr. Ide stated that the additional shares will be used from time to time for the acquisition of new properties and businesses in accordance with the company's policy of expansion and diversification. After the acquisition of P. Duff & Sons, Inc., Pittsburgh, only 21,530 of the 1,000,000 shares authorized when American Home Products was organized in 1925, remained unissued.

Among the companies acquired by the American Home Products Corporation during 1943 either for cash or exchange of stock were: G. Washington Coffee Refining Co., E. E. Bartos, Inc., Gilliland Laboratories, Inc., Ayerst, McKenna & Harrison, Ltd., Belle Center Creamery & Cheese Co., O. M. S. Corp., and Diamond Dyes.

Abbott Reports Earnings

Abbott Laboratories report for the eleven months to November 30 a net income, after $7,724,931 provision for renegotiation and income and excess profits taxes, of $2,683,604, equal to $3.41 a common share. Sales during the eleven-month period were $28,132,564.

Bristol-Myers Earnings

Bristol-Myers Co. and subsidiaries, including those in Canada but not other subsidiaries, report for 1943 net earnings of $2,683,557, after $4,957,358 provision for income and excess profits taxes. This is equivalent to $4.01 a share.

For the last quarter of 1943 the earnings were $670,513, or $1 a share.

Lehn & Fink Earns Less

Lehn & Fink Products Corp. reports for the six months to December 31 a net profit, after $382,000 federal income taxes, of $323,512, or 81 cents a share. This compares with a net of $350,948, or 87 cents a share earned in the last half of 1942 when the provision for taxes was $224,700.

Obituaries

Joseph A. Crombie

Joseph A. Crombie, for more than twenty-five years plant manager of George Lueders & Co., died at his home in Brooklyn, January 29, after a brief illness.

Mr. Crombie was identified with the essential oil industry for practically his entire life. For many years he conducted a distilling business under the firm name of J. A. Crombie & Co. In 1916 his plant was taken over by George Lueders & Co. and he remained as manager. He was a member of the company's twenty-five year club.

Malcolm G. Gibbs

Malcolm G. Gibbs, founder and former president of the Peoples Drug Stores, a chain of 130 stores, died in Washington, January 26. He was sixty-five years old.

Mr. Gibbs was born in Union City, Tenn., and in 1898 he went to Washington where he went to work as a clerk in the Mertz Modern Pharmacy at $4.50 a week and enrolled as a student at the National College of Pharmacy. In 1905 he went into business for himself and as opportunity offered opened other stores in the city. After the first World War the business continued to expand and in 1927 the annual stockholders' report showed that the Peoples Drug Stores, Inc., was on a normal $8,000,000 annual sales basis. The company had stores in Maryland, Pennsylvania, Virginia and West Virginia.

At his death Mr. Gibbs was chairman of the board. He was also president and a director of the Stockwood Investment Co., a director of the American Security and Trust Co., and president and a director of the E. Z. Chemical Co. and the Casmith Remedy Co.

Frank Clayton Groover

Frank Clayton Groover, recently retired vice-president of the Groover-Stewart Division of McKesson & Robbins, Inc., at Jacksonville, Fla., which he was serving in an advisory capacity, died in that city January 28. Mr. Groover, who observed his eighty-third birthday January 26, had been seriously ill for the past month, but previously had been actively interested in the business at Jacksonville.

He was born in Quitman, Ga., and went to Florida as a young man. He first engaged in the fruit and produce business, but prior to the turn of the century joined with two brothers, M. W. and H. E. Stewart, in establishing the Groover-Stewart Drug Co. of which Mr. Groover was president. After the Jacksonville fire of 1901, he was active in the rebuilding of the city. Subsequently the late D. W. Ramsauer and Sam Dunlap bought out the Stewart interests in the wholesale drug house, and when it was acquired by McKesson & Robbins sixteen years ago Mr. Groover became a McKesson vice-president while Mr. Ramsauer served as a divisional vice-president and director of the company. Mr. Dunlap is now chief executive of the division at Jacksonville.

From 1921 to 1922 Mr. Groover served as president of the National Wholesale Druggists' Association.

Charles P. Grossman

Charles P. Grossman, manager of the New York branch of the Solvay Sales Corp., died at his home in Great Neck, L. I., January 15. He was forty-three years old.

Mr. Grossman was a native of Cincinnati and joined Solvay Sales Corp. in 1922, being assigned to its Cincinnati office. In 1927 he was made manager of the Cleveland branch and in July 1930 he was transferred to New York as branch manager.

Leopold Hammel

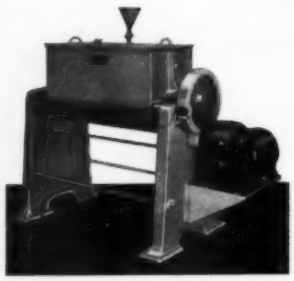
Leopold Hammel for the past ten years associated with A'Cadia Powder Puff Co., Inc., New York, died January 17. He was in his eighty-second year. Before joining A'Cadia Powder Puff Co., Mr. Hammel had been connected with several other companies serving the cosmetic industry.

Teamwork in Your Tablet Department

WITH MODERN STOKES AUXILIARIES

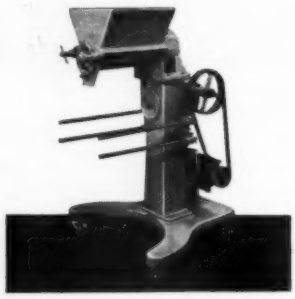
Mixers

The Stokes No. 21 Mixer illustrated below is equipped with an improved, interrupted-type spiral agitator which makes a rapid, thorough mix with less granulating fluid. Excellent, also, for adding colors, lubricating powders or flavoring oils to granulations. Drying time and labor costs are lowered. Has small hopper and spray pipe for adding granulating solution. Tilts for discharge. Ruggedly built for hard use. Made in four sizes . . . belt or motor driven.



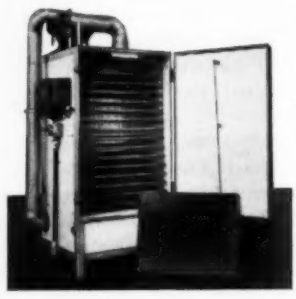
Granulators

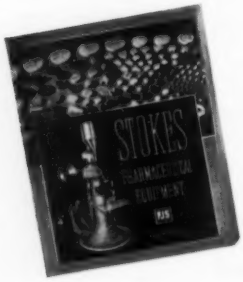
This Portable Granulator, No. 43-A, handles 90% of all pharmaceutical granulations, including extract mixtures. Has proved ideal for effervescent salts and, when equipped with a special screen, for breaking down slugs in precompression methods of granulating. Forms uniform granules with minimum "fines." Screen changes easily made . . . cleaning simplified. Operates quietly . . . is built for severe service . . . is easy to move from one department to another. Made in several sizes.



Drying Closets

Illustrated below is the Stokes No. 38 Drying Closet, an ideal shelf-dryer for pharmaceutical granulations, salts and various other products. Completely self-contained, electrically heated, with motors, piping and dampers as shown below. Thermostatic control optional. Improved design cuts heat requirements and reduces drying time 40% or more with assured uniform drying. Made also for use with steam heat, and in smaller 5-shelf model for laboratory use.





For more than 40 years we have designed, built and installed the tablet machines and complete auxiliary equipment now in use in many leading pharmaceutical laboratories throughout the world. We are, therefore, aware of the importance of inter-machine teamwork in turning out uniform quality products at a minimum of cost.

We invite you to make use of this knowledge and experience, as well as our confidential consulting service and demonstration laboratory, in the preparation of special formulae and materials for processing and compressing.

Write for Catalog No. 420-T describing our complete line of tablet machines and other pharmaceutical equipment.

F. J. STOKES MACHINE COMPANY

5932 Tabor Road Olney P. O. Philadelphia 20, Pa.

Representatives in New York, Chicago, Cincinnati, St. Louis
Pacific Coast Representative • L. H. Butcher Company, Inc.

F.J.Stokes TABLET MACHINES PHARMACEUTICAL EQUIPMENT FJS Est. 1895

PRODUCTION FORUM

By FRANCIS CHILSON
Production Engineer

ROUTINE

Damn routine! Remember the classic statue of Laacoon depicting a struggling man all snarled up with snakes? That classic figure should be renamed "The American Business Man." In spite of their progressiveness the American executives have never learned to cut the snarling, enmeshing, Gordian knot of routine and red tape. Seventy per cent of the effort of the average executive is repetitive and therefore wasted. I know a lot of the presidents and general managers of prominent drug and cosmetic firms, and I'll stand on the proposition that three-quarters of their work could be done by intelligent, well-trained secretaries or clerks.

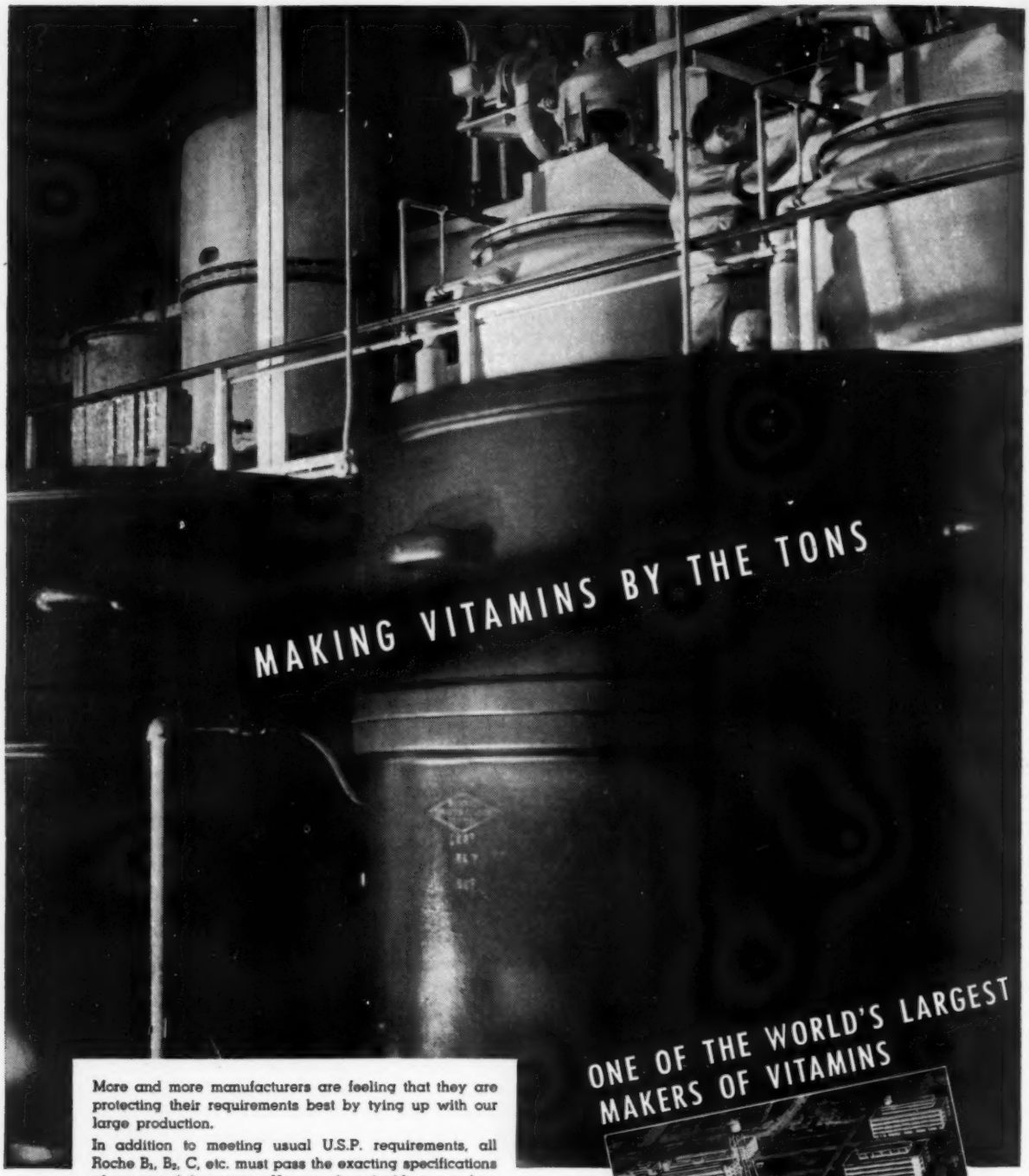
These men would be insulted if they were told that bluntly. It is nice to feel that no one knows as much about the business as you do; that no one has the ability and discernment to handle situations as well as you can. As responsibilities increase, it is only the exceptional man who can resist an increasing sense of indispensability. But when a big shot knocks off and is planted with appropriate ceremonies, the business doesn't stop; it rolls on just the same. Men never think of such a thing because it hurts their ego. But, Brother, when our checks are cashed, some other guy will do our jobs as well or a damned sight better.

Routine kills creative thinking, and it also kills men. For some years we were retained by one of the largest firms in the country, which was notable because at the time of our service five of the top officials had been at the birth of the company and were still running it. Although the business had an annual volume of many millions, not one of the men had passed fifty-five years old, and three, indeed, were under fifty. That was in 1938. At this writing, three of those men are dead. Dead of heart failure and nervous exhaustion. Dead in the prime of life before they really had a chance to enjoy the fortunes they had amassed. I wonder how indispensable the three corpses feel now.

One of these men had been vice-president in charge of production. He had a passionate love of detail. This is another way of saying that he didn't really know how to select men; he didn't know how to delegate responsibility; he didn't know how to distinguish what was important from that which was unimportant. He prided himself on being able to remember to remember masses of figures. Night after night he went home lugging that badge of inefficiency—the brief case. And the brief case was always full of papers to be perused at night when he should have been resting or amusing himself. After the funeral his wife told me that night after night she'd awaken him after he'd fallen asleep over his papers. Then one night he did not awaken. He doesn't worry about the papers now.

His job was taken over by one of his associates, another vice-president, who assured me when I warned him about overwork, that he'd never make Ed Wagner's mistake. He'd delegate responsibilities like a farmer sowing grain. But he didn't, and he, too, is dead. About a year later another vice-president, the sales manager, went out the same way.

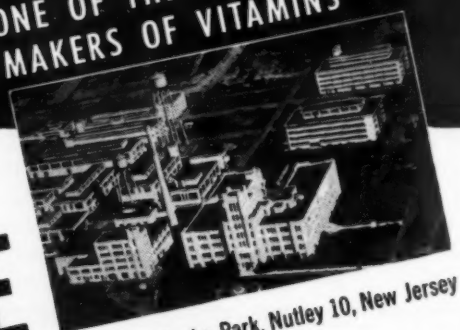
You may think I am yarning to prove a point. But I'm not. If you'd like the name of the company and the names of the other two men I'll give them to you. This instance is, however, somewhat exceptional because it seldom happens that three company officials follow each other in death within a period of five years for exactly the same reason—heart failure caused by years of overwork and incessant pressure. But many times have I seen an important executive or official pass in his checks suddenly. There have been a lot of such cases in this trade and others—that you know about as well as I. But I've never heard of an organiza-



More and more manufacturers are feeling that they are protecting their requirements best by tying up with our large production.

In addition to meeting usual U.S.P. requirements, all Roche B_1, B_2, C, etc. must pass the exacting specifications of our own laboratories. You are thus doubly insured as to highest quality. Quotations and technical information gladly supplied at all times.

ONE OF THE WORLD'S LARGEST MAKERS OF VITAMINS



ROCHE

Vitamin Division, HOFFMANN-LA ROCHE, INC., Roche Park, Nutley 10, New Jersey
World Famous for Fine Pharmaceutical Chemicals.

tion which blew up because one or more of its top men cashed in. In the organization mentioned above, the death of three important officials forced a reorganization, and other men had to do the work of the deceased officials. It may be heartless to say this, but my impression is that they are doing it just as well or a damned sight better.

Routine is a damnable thing. It stultifies creative thinking; it impedes progress; it hampers the development of subordinate executives. Routine is repetitive. If you analyze them, all business operations are repetitive, differing from year to year only in degree but not in kind. Little business, little problems; big business, big problems, but they all relate to the same old grind. You can delegate these problems. You can train subordinates to deal with them. If you must handle them yourself, then you are revealing the fact that you have failed in your primary job—you have failed to select men and you have failed to train them. In short, you are incompetent.

The president of one of the larger cosmetic firms, who incidentally prides himself on the fact that he never writes a letter relating to the routine of the business nor reads one told me one day that it wasn't always thus. He said that one day several years ago he was poring over a mass of papers, when he suddenly realized that he had done the same thing many times before. He classified the papers before him. Some related to financial commitments; some to major production problems; some to customer complaints; some to sales and advertising problems. In every instance he realized he had been over the same old ground many times before. So he called in his assistant, dumped all the papers in his lap and went to Europe for two months. From that time on he was freed from routine. He keeps his fingers on the pulse of the business by means of succinct reports. I never knew a man who knows so much about his business, nor have I ever known one who devotes so little time to it. Since he decided to get out from under the crushing burden of routine, his business has quadrupled. He gives all the credit to the subordinates whom he has trained; he deprecates his own part in directing the business. But I know and his men know who's the boss. If again you think this is a fairy story, I'll be glad to tell you who this man is. You've all heard of him; his company is outstandingly successful.

The tired business man is the servant of routine, not its master. The business man who has no interests but his business is an example of inefficiency. The fact that the business guided by such a man is large and successful does not gainsay the point. Whenever such an observation is advanced to refute my argument, I always ask how much larger would the business have been if such a man had really known how to run it. Good brains are damned scarce, and whenever I see them being wasted on minutae, I can't help feeling depressed. In the face of the grave problems confronting us, problems so grave that they will not be solved in our time, the national welfare depends upon the creative application of every creative brain.

POST-WAR PLANS

All through the trade people are talking about the post-war era and making all manner of optimistic plans to exploit that period. In all the discussions to which this writer has been a party, there has been a noticeable omission. That omission concerns men. Few manufacturers seem to realize that the priceless ingredient in any organization is brains. Brains are scarce—good brains are scarce at any time, and since a lot of them will be extinguished by the war, they will be even scarcer. So it would seem that the first step in a post-war plan is to create a means of attracting men of outstanding ability. Give me the men and you can have the plans.

GREASE PUMP

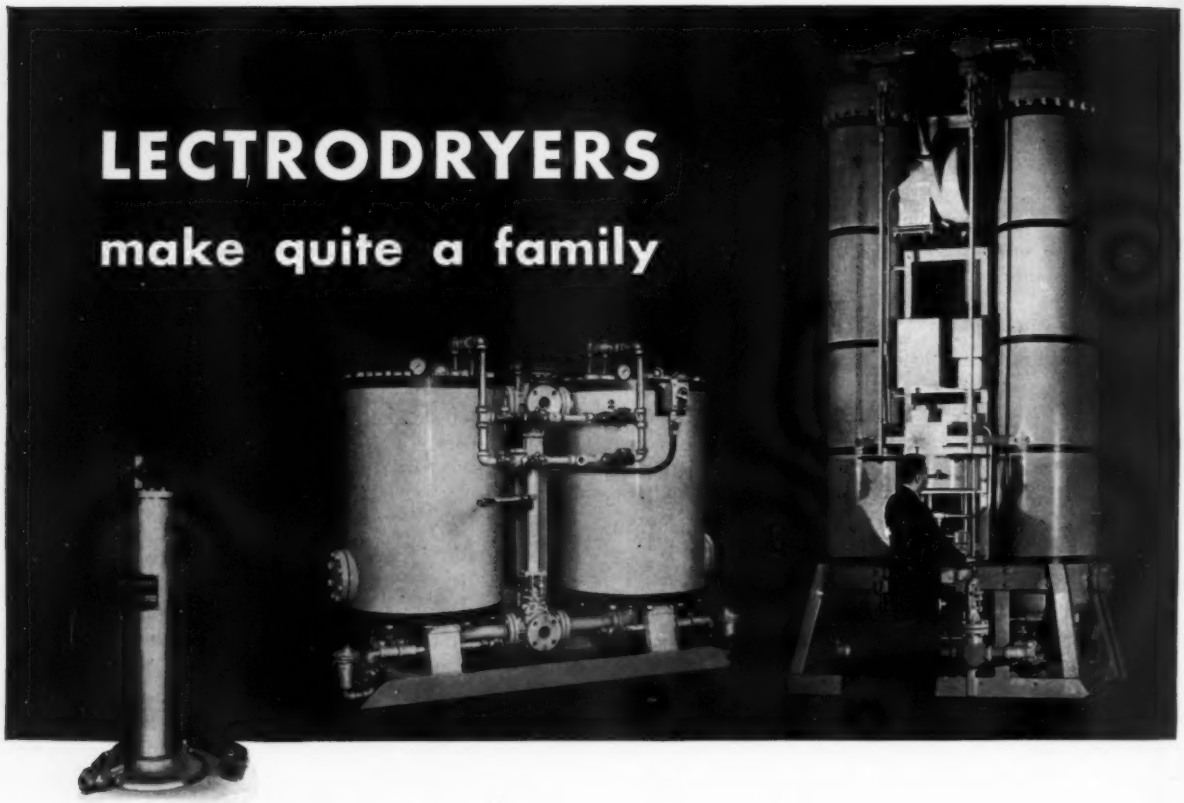
As all of you who make creams or ointments know, handling fats or petrolatum out of drums is none too easy. Therefore, you will be interested in the new alemite barrel pump. This gadget is mounted on a drum cover and is fitted with an intake pipe. Just shove the pipe down into the petrolatum, clamp the cover on, switch on the juice and let 'er go Gallagher! This pump was specifically designed for handling heavy lubricating greases. Alemite is located at 1817 Diversey Parkway, Chicago.

CHAMBON TO GOAT

Mr. Walter Goat, president of The Fred Goat Co., Inc. announced the acquisition of Champlain Division of Interchemical Company as of January 1, 1944. It will be known as Champlain Division of The Fred Goat Co., Inc., and will retain its present organization and plant at 636 Eleventh Avenue, New York City. George N. Auerbacher, who has been identified with this company for the past twelve years, will remain in charge as General Manager and Divisional Vice-President.

Champlain, originally founded in 1929 under the name of the Chambon Corporation, was created to build and sell rotary printing presses under licenses and patents owned by Louis Chambon, one of the largest and most successful manufacturers of printing presses and fabricating equipment on the continent. In 1940 the name was changed to Champlain. The company builds small presses which operate at high speeds and which perform a number of different operations at one time. These operations include multicolor printing, perforating, creasing, laminating, coating and die cutting. For this purpose a web operation is used. The paper is fed into the press from the original roll, rather than in sheets. After the different printing and fabricating processes are completed, the paper is either rewound, sheeted or cut into final shape. Champlain presses are particularly adapted to end products which

LECTRODRYERS
make quite a family



From this tiny "laboratory model", standard Lectrodryers range upward in size far beyond the biggest fellow you see here. So, when you have a DRYing job to be done, a member of the Lectrodryer family can usually step right out of the catalog to handle it. Its size is suited to the amount of air, gas or liquid to be handled.

Little or big, Lectrodryers have this in common: They are tops in DRYing efficiency. Employing Activated Aluminas as their drying agent, they remove moisture efficiently and surely to dew points below –110° F. They dry air and gases at atmospheric pressure or compressed to as high as 3,000 pounds per square inch.

Lectrodryers are aiding in vital production by enabling drug manufacturers to work in atmospheres of known humidity, with materials of definite dryness. Important processes have been standardized, boosting quantity and quality. Doubtless, you have a wartime production job, or are planning postwar work, on which Lectrodryers can help you accomplish these same results.

And when you get those plans on paper, call on Lectrodryer for recommendations on DRYing equipment. Quite likely, there's a standard machine which will handle the job perfectly. PITTSBURGH LECTRODRYER CORPORATION, 309 32nd Street, Pittsburgh, Pennsylvania.

In England: Birmingham Electric Furnaces, Ltd., Tyburn Road, Erdington, Birmingham.
In Australia: Birmingham Electric Furnaces, Ltd., 51 Parramatta Road, Glebe, Sidney.

LECTRODRYERS DRY WITH ACTIVATED ALUMINAS

PITTSBURGH
LECTRODRYER
CORPORATION
Reg. U.S. Pat. Off.

require labels, wraps, stamps, cartons, et cetera, that are printed in several colors and need laminating, waxing, cutting, creasing or similar operations. Typical customers are manufacturers of soap, candy, chewing gum, tobacco, matches, government agencies, et cetera, as well as printing suppliers to such manufacturers.

Through various developments, experiments and acquisitions of patent rights, Champlain has developed a complete line of letterpress and gravure printing presses, which are used by numerous printers for labels and cartons, as well as miscellaneous other work.

Today Champlain presses are being used to print labels and cartons for nationally known packaged products of famous manufacturers such as American Can Co., American Safety Razor Blade Co., Beech Nut Packing Co., Sweets Corporation of America, Federal Match Company, Standard Brands, Colgate Palmolive Peet Co., General Foods, Proctor-Gamble, Johnson & Johnson, and many others. Champlain presses are also used by famous label and package producers such as Shellmar and Reynolds Metal.

BUBBY CUPS

Years ago when the world was young and I was working at Norwich with Howard Sumner, the then president of the company, R. S. Eaton, asked us what sort of uniform we intended to furnish for the women workers. Howard, who was always an imaginative young man, promptly replied, "Blue tights and aluminum bubby cups." One never would have thought that such a thing would come to pass but take a peek at the adjoining picture of a sweet young thing wearing a couple of Lumarith bubby cups. She'd look good in blue tights, too. These, as the following release reveals, are intended for *safety* purposes. Not a bad idea from a feminine standpoint but one can imagine circumstances under which such cups would constitute an industrious hazard. You could easily get your eye knocked out with one of them or break your teeth off. Gad! What's the world coming to? Time was when gals wore chastity belts and men wore iron pants but who the hell would have thought we'd go back to that?

"A large proportion of women war workers do factory work where they encounter the hazard of moving parts and for their protection a prominent plastics fabricator was asked to help design and develop a lightweight safety garment which would be comfortable to wear. Their answer was to produce a Lumarith plastic form which is slipped over the skin (*whoops*) or over undergarments or under a work apron. A slightly ridged construction provides extra impact resistance. At the same time, because Lumarith is a thermoplastic material and *responsive to heat, it can be molded by hand to fit individual contours merely by softening it* under hot tap water for a few minutes in the plant washroom or in the basin at home. When the plastic cools, it retains permanently the shape formed by the worker and can be cleaned again and again simply by wiping it with a damp cloth.

Safety engineers are inclined to encounter resistance among women to safety devices which distort their figures or make them look unattractive. It is for that reason that they have expressed satisfaction with this Lumarith plastic form—so smooth that it can scarcely be observed when worn. The forms are made by E. D. Bullard Company, 275 Eighth Street, San Francisco, California. Lumarith is a product of the Celanese Celluloid Corporation, a division of Celanese Corporation of America, 180 Madison Avenue, New York 16, New York.

The advertising manager's name is Harriet Raymond. Thanks, Harriet, for this information. I can suggest other uses for Lumarith. The Ed.

SIDE AGITATOR

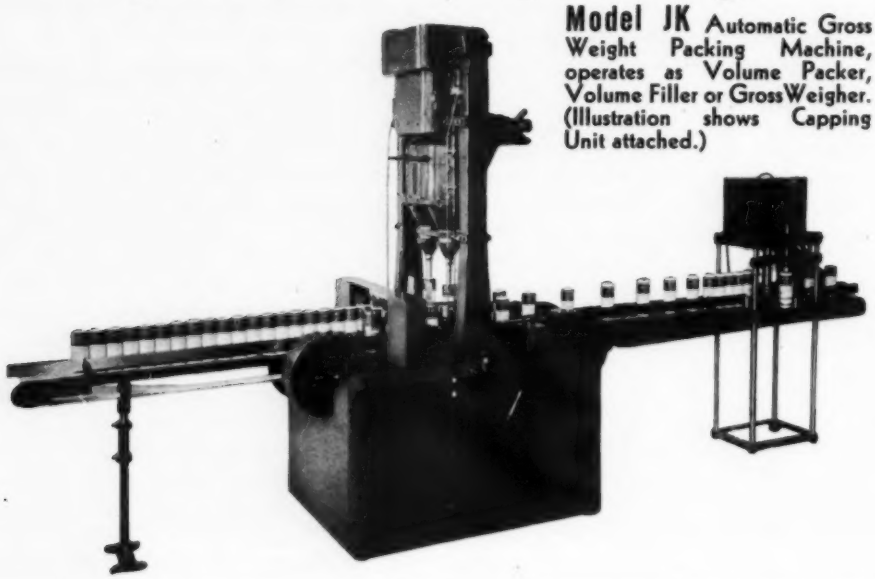
A new side entering agitator, which can be repacked from the outside without draining the tank and without loss of liquid, has been introduced by H. K. Porter Company, Inc., Pittsburgh, Pennsylvania. So important are the advantages incorporated, that the company is in process of replacing its entire standard line of agitators, from ½ to 30 horsepower, with the new design.

The outside repacking can be done in 5 minutes, saving many man hours, and the expense of draining the tank, airblowing it in cases where toxic fumes make this necessary to permit a workman to enter, and then pumping back the fluid after the packing has been replaced. This is accomplished by using an external packing gland, while a seal attached to the shaft inside the tank may be drawn on into a seat, hermetically sealing off the contents of the tank and permitting repacking with the tank full and no loss of liquid.

The new agitator has been completely reengineered and contains many other valuable features. All thrust is taken off the motor bearings by means of roller bearings operating against a ring attached to the shaft. This results in longer life for the motor gears and consequently for the motor. Also, by means of undercuts,

FULL MEASURE and ACCURATE WEIGHT

by automatic packing



Model JK Automatic Gross Weight Packing Machine, operates as Volume Packer, Volume Filler or Gross Weigher. (Illustration shows Capping Unit attached.)

THIS completely automatic machine has two filling stations which pack by volume, fill by volume or weigh, according to the consistency of the product and the size of container. The machine also has provision for a vibrating device for settling the product when this is required.

Model JK is a late model machine and incorporates many improvements and refinements, such as:

Hand control for quick adjusting of weight variation resulting from a change in the density of the product. By the simple turn of a knob this variation can be corrected while the machine is running.

The automatic packing feature is important due to the decrease in the size of many containers under the Food and Drug Laws, which makes it difficult and sometimes impossible to get the required quantity into the container without packing.

An adjustable baffle plate in the hopper which can be adjusted from the outside to any desired angle, according to the product and the weight being filled, so as to provide the proper flow of material to the auger.

A gate valve above the auger stations which can be closed when changing augers, thus shutting off the material in the supply hopper and eliminating the necessity of emptying the material from the hopper.

All mechanisms below the feeding table completely enclosed, thus preventing any chance spillage of powder from penetrating the working mechanism of the machine.

Automatic No Container, No Fill.

Provision in the gear box for change gears so as to obtain the most efficient auger speed for each different product.

The machine can be equipped for intermittent conveyor motion to facilitate handling of oval or irregularly shaped containers. With this intermittent motion, the conveyor moves just enough to deliver one container at the transfer station, thus preventing climbing and piling up of the containers.

The machine handles powdered and granular materials of all descriptions and is ideal for the automatic filling of all types of drugs and cosmetics.

SPECIFICATIONS

Running Speed:	60 per minute (2 H.P.)		
Length:	12' including standard conveyor (longer conveyor optional)		
Width:	3' 4½"	Weight:	3400 lbs.
Height:	7' 4"	Operators:	None
Package Limits:	Base 5" x 4" Height ¼" to 12"		

UNITED STATES AUTOMATIC BOX MACHINERY CO., INC.

Makers of complete line of packaging equipment for weighing, filling, cartoning, closing, box-making and wrapping

Also owning and operating

NATIONAL PACKAGING MACHINERY CO. AND CARTONING MACHINERY CORPORATION

20 Arboretum Road, Roslindale 31, Boston, Mass.

•

Branch Offices: NEW YORK • CLEVELAND, OHIO • CHICAGO, ILLINOIS

Los Angeles: Krugh Equipment & Supply Co., 1412 Santa Fe Ave.

the designers have made it impossible for leakage to get at the bearings, not only adding to their life but simplifying lubrication and eliminating the need for special lubricants.

The new unit is also completely weatherproofed with all moving parts protected from the elements, and can be installed outdoors with entire assurance. Motor base and cowl are integrally mounted to agitator, and the unit is equipped with an adjustable support under motor base. Hinged weather-proof cowl on motor gives easy access to motor.

Exhaustive tests with kerosene and other liquids under much higher pressures than in actual operations have conclusively demonstrated that complete sealing is obtained under and conditions, as well as the practicality of other features.

PROTECTIVE CLOTHING

Of all industrial diseases, those affecting the skin are the most prevalent, accounting for 65 to 70 per cent of all persons disabled because of their occupations. The high rate of incidence is a direct result of our vast production effort in which thousands of workers are engaged in factory operations involving exposure to oils and solvents. Although permanent disability from dermatitis and folliculitis is rather uncommon, these diseases present a hazard to the health of workers and to full production schedules. Absenteeism in industrial plants can, to a large extent, be laid to the prevalence of these two diseases.

Until recently very few industrial plants had any program to combat this hazard. The only procedure was to remove workers who were unfortunate enough to be allergic to oils or solvents. The result was that workers failed to report mild cases to the doctor for fear of losing their jobs. In the early stages, these dermatoses are quickly cured and from that time on are preventable; postponing treatment only makes recovery more difficult and, in the case of some skin diseases, endangers other workers through the contamination of used oil emulsions.

Dermatitis and folliculitis need no longer be menaces to workers. Modern methods now in use place the accent on prevention instead of cure. The health of workers is protected by testing them for allergies before they are assigned to new duties so that proper safeguards of their health may be taken. Educational programs which train the workers to observe sanitary precautions have been instituted in many industrial plants.

The most practical preventive measure to combat the problem of dermatoses is the use of oil and solvent-proof safety clothing. Flexible transparent garments are now available made of a vinyl resin known as Compar, a limestone-coal-and-air derivative which is impervious to sulfur-base cutting oils, kerosene, paint, lacquer, cleaning and degreasing compounds, and other organic solvents. This clothing is also unaffected by many of the inorganic solvents. Workers who are susceptible to these agents can, if necessary, be encased from head to foot in these safety garments which include hoods, aprons, gloves, smocks, sleeve guards. Even shoes may be completely coated with solutions of this same resin. Persons formerly unable to work with oils and solvents because of sensitivity now can be assigned to hitherto impossible duties without danger to health.

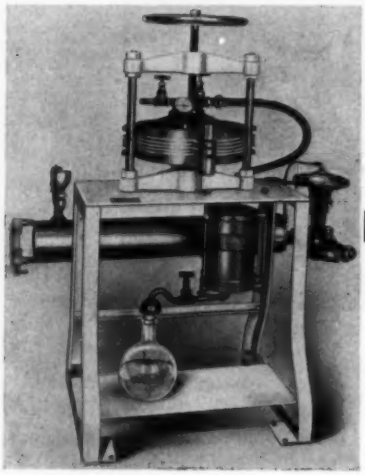
For women workers there are Compar bonnets, attractively designed by John Frederics, famous New York hat stylist. These caps can be worn to protect the hair and scalp from oils and solvents as well as gases, fumes, dust, lint, et cetera, and at the same time keep the hair from tangling in machinery. They are self-ventilating, lightweight, and adjustable to all average head sizes.

To protect the hands and to facilitate the gripping of parts and controls, dual-purpose gloves offer the advantage as well of protecting the finish of materials handled. The flexible Compar plastic contains no sulfur or other ingredients that might tarnish metal surfaces. Where varsol is used for metal parts or kerosene in the Magnaflux inspection process, these feather-weight transparent gloves afford a high degree of safety. Highly abrasion and tear resistant, they are impervious to organic solvents and to such inorganic solvents as carbon disulfide as well as many industrial, refrigerant, and military gases.

Transparent aprons, smocks and sleeve guards of flexible Compar can be worn to protect workers' clothing from becoming saturated with oils or solvents, one of the direct causes of dermatoses. These items of wearing apparel are well suited to assembly line work.

For those who must stand in oils and solvents, such as parts-cleaning workers, shoes may be coated with a Compar solution. Once dipped in Compar, they are impervious to oils and solvents, including tricholrithylene. Not only will the wearer be protected; the Compar coating, resisting the destructive action of the solvent,

PENICILLIN



AND

ERTEL PYROGEN RETENTIVE INFUSION FLUID FILTERS

have joined forces to play a most vital part in the protection of our men under arms.

These pyrogen retentive filters have been developed by ERTEL research in collaboration with and according to the protocols set forth by Drs. Co Tui and Wright in their paper entitled "The Preparation of Non-pyrogenic Infusion and other Intravenous Fluids by Adsorptive Filtration", ANNALS OF SURGERY, Sept. 1942.

These pyrogen retentive filters are widely used not only to safeguard penicillin, but blood plasma, saline, and dextrose and other infusion fluids.

For additional data address your inquiry to Dept. PX New York 18, N. Y.

ERTEL ENGINEERING CORPORATION

40 W. 48th STREET
NEW YORK 18, N. Y.

44 MILL STREET
KINGSTON, N. Y.

yet leaving the leather entirely flexible, will protect and greatly extend the life of the shoe.

Wherever plant operations involve the handling of oils or solvents, workers are due the protectiou these safety garments provide. Only by the forehanded measure of providing protective clothing for such workers can there be assurance of complete protection from dermatoses with their crippling effects to workers and to plant production alike.

TRIANGLE BULLETIN

A new twenty-page bulletin describing weighing, filling, measuring, and carton-sealing equipment has been issued by the Triangle Package Machinery Company, 906-920 North Spaulding Avenue, Chicago. This bulletin is copiously illustrated with installation photographs in food plants, grocery chains, metal working plants, et cetera. Details are given on production rates of the packaging machines, methods of handling goods, and other pertinent data.

COLLOIDAL FUEL MILLS

The increasing scarcity of fuel oil with which the future will have to reckon is already manifest in the government's policy of urging the use of a colloidalized mixture of 40% pulverized coal and 60% Bunker C oil. The mixture when processed in a colloid mill such as the Eppenbach Fuel Mill can be stored, pumped and burned with existing oil burning equipment. According to all accounts the mixture is cheaper than straight oil and cheaper. Get in touch with Eppenbach Inc., 44-02 11th St., Long Island City for detailed dope.

DEFINE YOUR PROBLEMS

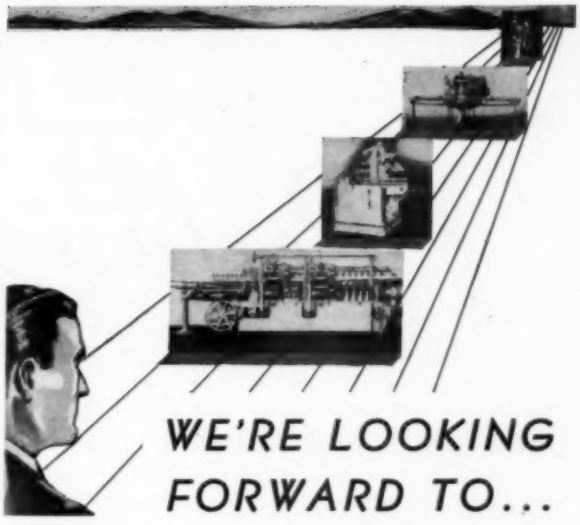
That's platitude, God knows. But a platitude is a truth which everybody accepts without question and nobody does anything about. It has been my experience that virtually all problems dictate their own solutions if you clearly understand the problem and can as clearly state it. If you can't state it clearly in writing there's a pretty good chance that you don't really understand it after all. Not long ago one of my evil companions confessed he was having hell's own time extracting nux vomica. He had all manner of ideas about what to do to facilitate extraction but they were all wrong because he wasn't confronted with an extraction problem at all; he was confronted with a grinding problem. Nux is tough to grind properly. In this case his grind was bad; he had everything from chips to chunks. There was no uniformity about particle size and the particles were too big. Since he didn't have proper grinding equipment the answer to his problem lay in buying the extract.

Sometimes it's difficult as the devil to define a problem positively. You're inclined to take in too much territory. Often it helps to approach the problem

negatively and list the things that it isn't. This helps to shake it down. A "problem" may indeed be several problems all interlocked and confused as chemists well know. Production problems often are equally complex. A lot of special packaging machinery has been developed at tremendous expense to handle special problems and it didn't work because the essential problems hadn't been defined. A pile of money was spent on an automatic machine for casting cocoa butter suppositories automatically. It didn't work at first because it was found that the setting of cocoa butter is not a freezing problem but a crystallizing problem. It passes through a certain cycle before it will harden and all hell won't hurry it up. The problem required time not temperature.

TABLET COUNTING EQUIPMENT

If you are in need of tablet counting equipment please let me hear from you at once. This request is in the nature of a survey and I'd like as wide a response as possible. Some months ago you may recall that a tablet counting machine was described which required no adjustment parts for tablet size, count, or shape. Neither does it require accessory parts for different container shapes. Any count in any number, even odd numbers such as 101, 57 can be counted as well as even amounts. The patent on this machine was issued to me and an associate about six months ago and the first machine is now under course of construction—with priority of course. The operating model has demonstrated that the machine is practical. The machine will count coated and uncoated work, high-crown, embossed tablets which would jam in any other machine; it will count triangular bichloride tablets, oval tablets, square lozenges, capsules, pearls—what have you. When you switch from one shaped tablet to another you make no adjustment whatsoever unless the count is also to be changed. Parts for container shapes and sizes are eliminated because all containers—jars or bottles—are carried by the necks below the thread ring. Cork-finish bottles are carried below the lip. Unless you can get fair priorities you'll have to wait to get delivery. The machine being built will be sold to nobody unless it is absolutely without bugs which is too much to expect from a new and revolutionary idea. There's always a chance that the performance of an operating model cannot be duplicated on a commercial scale without a lot of sweat and swearing. It is because I do not think major difficulties will be encountered that I'd like you to let me know if you will be interested to look the job over when it is finished. Also your letters will spur the equipment manufacturer who is building the first job. So do me the favor of letting me know pronto if you are in the market for widely adjustable counting equipment.



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ANIMAL NOTE IN PERFUMES

In the field of perfumery there is a school of thought which firmly believes that the use of the animal note in scenting toilet articles has a direct sex appeal to the female species and in some cases, to the male.

Products such as natural musk (derived from the testicles of the musk deer), castoreum from beaver castors, civet from the glands of the civet cat and ambergris from the whale are the most important products used to demonstrate this theory.

The perfumer generally concedes that these products supply a certain "warmth" to a perfume composition and also some fixative value, but perhaps has not considered the possibility that should this theory have some factual basis it would greatly enhance the sale of the product.

It is believed that the proper way to test the theory would be to take a perfume containing such materials and the same product without them and obtaining a comprehensive test over a wide range of individual. But if the general odor without the animal scent is not appealing then that individual's test could be discarded. To illustrate the point we all have definite reactions to certain colors, some of us prefer red in preference to blue for example, but if we do prefer red then that color is enhanced by adding an ingredient which will give it more brilliance and from that individual's point of view the color reaction will be more pleasing.

There could be no fixed rule as to which animal product should be used for a given odor since all products vary in the materials used. As a suggestion however, the light flowery types would require ambergris tincture or civet tincture or a combination of both. The heavy types—musk or civet—or a combination of both.

Castoreum should be limited more to powder odors and extremely heavy types of perfume where it gives the most satisfactory results.

The synthetic animal notes such as indol and skatol can also be used in the flowery types, such as indol for Lilac and Jasmine and Apple Blossom and Lily of the Valley types, where as skatol will give excellent results in Orange flower creations. The use of these materials should be limited to perfumes, toilet waters and lipsticks however, since both discolor creams and powders.

In all the above recommendations caution should be used not to destroy the basic theme of the odor and careful experimentation will be found necessary before arriving at a suitable balance of perfume base and animal fixative.

SPICE OILS AND MICROBIAL SURFACE GROWTH

H. B. Blum and F. W. Fabian (*Fruit Prod. Jour.* 22:326, 1943) have made an indicative study of spice oils and their components for controlling microbial surface growth. Thirty-two spice essential oils and 7 compounds derived from them were tested for their effectiveness in controlling the development of troublesome organisms causing scum formation on the surface of fermenting foods or beverages. *Saccharomyces ellipsoideus* and *S. cerevisiae*, representing organisms that grow beneath the surface, and *Mycoderma vini* and *Acetobacter aceti*, organisms that grow on the surface, were used as test organisms, these being allowed to grow for a specified time in sterile cider before being planted in the test solutions. The efficacy of the spice oils or their components on these four organisms was judged from the alcohol production in the case of the true yeast, from inhibition and germicidal action in cider for all the organisms, and from the inhibiting action on yeast by the agar cup method.

The spice oils were found not to have the same relative effectiveness for all tests and organisms. However, oil of mustard was consistently superior to the others, followed by cinnamon, cassia, and clove oils. The resistance of the organisms varied with the organism and the spice, but in general their resistance decreased in the following order: *A. aceti*, *S. ellipoideus*, *S. cerevisiae*, and *M. vini*. The decreasing order of the germicidal activity of the spice components in the dilutions studied (1:10 to 1:10,000) were allyl isothiocyanate and carvacrol (equal), cinnamic aldehyde and cinnamyl acetate (equal), eugenol, eugenol ether, and eucalyptol. There was no correlation between surface tension and preserving or germicidal efficiency in the spice oils suggesting that their germicidal value was chemical rather than physical in nature.

CARBON DIOXIDE MATURATION OF PHENOLIC TYPE PERFUMES

An efficient and less expensive method for perfuming soap, toilet preparations and similar products forms the basis of British Patent 556,117, granted to E. J. Lush and Peter Lunt & Co., Ltd. In addition the procedure described imparts a perfume which is not impaired by time and lasts throughout the life of the product. The invention makes use of the fact that certain perfumes are of the phenolic type and form metallic and alkali salts, such as thymol; others are isomerized by potash forming new perfumes, such as eugenol and safrol. The patentees have found that such salts may be added directly to soaps and similar toilet preparations and produce a delicacy of odor only otherwise obtained by compounding with fixatives and blending with a carefully adjusted range of perfumes.

They have also found that these metallic and alkali compounds may be blended with non phenolic type perfumes to produce perfumes characteristic of the materials employed in their pure state. For example, eugenol may be isomerized to iso-eugenol by heating with excess of potash in known manner and the product made up to a 40 per cent solution in water and added directly to a soap base which is then milled, plodded and stamped in the usual manner. As little as one-quarter of 1 per cent of eugenol treated in this way will perfume a soap base. The characteristic odor will develop on maturing and may be associated with liberation of the perfume from its salt by the carbon dioxide of the air or may be modified by partial oxidation or by both reactions taking place simultaneously.

In this example a note suggestive of both iso-eugenol and vanillin is obtained.

A mixture of eugenol and safrol treated separately with potash and mixed or treated together will give a distinct heliotropin note to the soap base to which the potassium iso-eugenate and iso-safrol are added.

By this method, treatment of the potassium salts with acids and vacuum distillation of the resultant oils is avoided, which processes in some cases destroy the delicacy of the perfume and tend to produce other, frequently empyreumatic, odors.

The fixation of the perfume base as its salt and liberation by the carbon dioxide of the air enables a soap tablet to maintain its perfume to the last in use since the carbon dioxide only penetrates slowly the surface of the soap. On the other hand, tablets may be deliberately matured in an atmosphere of carbon dioxide if so desired. Face powders may be similarly perfumed with the object of releasing perfume as the carbon dioxide content of a crowded room increases.

BELGIAN CONGO ESSENTIAL OILS

According to *The Perfumery and Essential Oil Record* for November 1943, a special arrangement has been made whereby Allied Governments domiciled in England may use the facilities of the Imperial Institute. In accordance with this set-up, the Institute examined samples of essential oils from the Belgian Congo; among them being geranium oil and basil oil specimens. The reports on these oils are as follows:

Geranium Oil

The sample, measuring 600 ml., was labelled "Essence de Geranium Rosat 1940. Lettre 4898 du 19/7/41. C.S.K." The oil was clear and bright, dark greenish-brown in color, and had an agreeable and customary odor. The figures for chemical and physical characters of this sample obtained at the Imperial Institute are tabulated below, with the range of figures given by Gildemeister for commercial Algerian and Reunion geranium oils:—

	Present Sample	*Commercial Algerian*	*Geranium Oils Reunion*
Specific gravity at 15.5°C./15.5°C.	0.8966	0.892 to 0.904	0.888 to 0.896
Optical rotation (10 cm.) α_D	−8.8° at 23.1°C.	−6.5° to −12°	−7.7° to −13.8°
Refractive index n_{D20}°C.	1.4670	1.464 to 1.472	1.461 to 1.468
Acid value	8.7	1.5 to 9.5	1.5 to 12
Ester value equivalent to geranyl tiglate (per cent)	22.1	13 to 29.5	21 to 33
Ester value after acetylation	226.8	203 to 234	206 to 233
Total alcohols, as geraniol, $C_{10}H_{18}O$ (per cent)	72.1	66 to 78	67 to 77.6
Free alcohols, as geraniol, $C_{10}H_{18}O$ (per cent)	57.7	....	....
Solubility in 70 per cent w/v alcohol at 15.5°C.	Soluble in 2.5 vols. faintly opalescent	Soluble in 2 to 3 vols.	

The results show that the physical and chemical characters of the sample fall within the range of both Algerian and Reunion oils.

Consultation with commercial organizations indicated that the oil, though somewhat inferior in odor value as compared with Algerian and Bourbon oils, would in normal times compete favorably with Kenya oil, and in the present circumstances would realize good prices both as a perfumery agent and for the preparation of rhodinol.

Basil Oil

The sample, measuring approximately 600 ml., was labelled "Essence de Basilic 1940. Lettre du 19/7/41. C.S.K." The oil was clear and bright, light reddish-brown in color and possessed a pleasant spicy odor. This sample was examined at the Imperial Institute with the following results, shown in comparison with figures for commercial sweet basil oils (French, German, Algerian and Spanish):

	Present Sample	*Commercial Sweet Basil Oils**
Specific gravity at 15.5°C./15.5°C.	0.9242	0.904 to 0.930
Optical rotation (10 cm.), α_D	−8.4° at 20.2°C.	−6° to −22°
Refractive index n_{D20}°C.	1.4898	1.481 to 1.495
Acid value	3.3	Up to 3.5
Ester value	2.9	1 to 15
Ester value after acetylation	127.9	114.8 to 130.2
Total alcohols, as linalool, $C_{10}H_{18}O$ (per cent)	38.7	....
Free alcohols, as linalool, $C_{10}H_{18}O$, (per cent)	37.9	....
Total phenols (per cent)	5.0	....
Solubility in 80 per cent w/v alcohol at 15.5°C.	Soluble in 0.9 vols.	Soluble in 1 to 2 vols.

*These figures are quoted by Gildemeister from "Bull. Roure Bertrand Fils," 1910, **39**, October.

The results indicate that the oil has the normal characters of the basil oils of commerce derived from plants of *Ocimum basilicum* L. vars. *thyrsiflorum, crispum, album* and *purpurascens.*

According to British commercial authorities the oil is of fair quality though inferior to the French oil, for which there is only a limited demand. In normal times it would be difficult to find a buyer for the oil in this country, and currently the prospects are little better.

HELICHRYSUM HOCHSTETTERI OIL

A note in *P. & E. O. R.* (34:305, 1943) summarizes the data obtained by the Imperial Institute after analysis of a sample of *Helichrysum hochstetteri* oil obtained from Kenya. The oil was said to have been prepared from the tops of the flowering stems of this plant which is indigenous to Kenya; the yield being given as 0.2 per cent.

The sample consisted of a clear, very pale yellow, limpid oil with a slight camphoraceous odor. It was submitted to a chemical examination with the following results:—

Specific gravity at 15°C.	0.8780
Optical rotation α_D 15°C	−15° 40'
Refractive index n_{D20}°C	1.4786
Acid value	0.6
Ester value	2.1
Ester value after acetylation	11.70
Phenols (per cent v/v)	2.0
Aldehydes (per cent)	nil
Solubility in 70 per cent v/v alcohol	Insoluble in 10 vols.
Solubility in 90 per cent v/v alcohol	Soluble in 10 vols.

The results of the examination show that the oil consisted very largely of terpenes with only small percentages of alcohols and phenols. Aldehydes were absent.

No reference has been found in literature to the volatile oil of *H. hochstetteri* or to its chemical composition. Species of *Helichrysum* are included among those plants commonly called "Everlastings."

INDUSTRY'S BOOKS

Enzyme Technology, by Henry Tauber, Ph.D., 275 pp., John Wiley And Sons, Inc., New York, $3.50.

This volume presents practical material concerning the role and use of enzymes in industry, their preparation, and their use in medicine. A part of the book deals with the highly instructive and commercially significant preparation of organic compounds by fermentation. The view that molds and almost all bacteria are only destructive agents which burn up sugars and offer nothing in return is out of date. In recent years a large variety of microorganisms have been put to work on a factory scale and are now producing 24 hours a day. Thus one product of fermentation, sorbose, is an intermediary in the manufacture of vitamin C, another, butylene glycol, may be used in the synthesis of vitamin C, another, butylene glycol, may be used in the synthesis of rubber, and a fermentation product of yeast, 1-acetylphenylcarbinol, is employed in the synthesis of l-ephedrine. One mold product, penicillin, is being applied therapeutically with great success. For the production of these substances definite substrates and conditions are required. A series of quantitative methods for the determination of enzymes and vitamins has also been included in the book because of their usefulness in research and control work.

Know Your Hay Fever, by A. P. Sperling, Ph.D., Instructor in Hygiene, College of the City of New York, 241 pp., Frederick Fell Inc., New York, $2.

This book will undoubtedly prove helpful to the many thousands of people made miserable each year by hay fever. In its sixteen chapters are the answers to such questions as How does hay fever begin? How does hay fever end? Is hay fever inherited? Is hay fever a neurosis? Is hay fever contagious? Does hay fever go away in seven years? At what age does hay fever occur? How long does hay fever last? Why is it called hay fever? What is rose fever? Can hay fever be cured? It also contains important facts on the 150 hay fever free localities in the United States and Canada. Information on plants that cause hay fever. Best modes of behavior to alleviate hay fever. How humidity, temperature, wind rain, time of day affect you. Information on what steps to take to get instant relief and avoid undue suffering makes the book worthwhile.

The Pharmacopoeia And The Physician, Second Series, 1943, 360 pp , American Medical Association, Chicago, $1.50.

This is a series of articles on the use in therapy of pharmacopoeial substances which appeared in The Journal of the American Medical Association. The first series of articles was published in The Journal of the American Medical Association during the years from 1936 through 1938, and all of the material is included in a book called The Pharmacopeia and the Physician, published in 1939. The success of the first series was so great that an additional series was prepared; these articles were published in The Journal during 1939, 1940 and 1941. The second series of articles comprises the contents of this second volume.

Are You Allergic?, by Jessamine Hilliard and Charles C. Coghlan, M.D., 248 pp., M. Barrows & Co., New York, $2.50

This is the story of allergies. It will help the reader understand his own strange sneezing, his skin "infections," the hay fever, hives, watery eyes, restlessness, and more serious ills which beset him and which may be caused by the bed on which he sleeps, the food he eats, the place in which he works, the clothes he wears, his wife's hair combings, his pet dog or cat or canary. Doctor Charles C. Coghlan, well-known allergist of the West Coast and one of the authors of this book says: "I feel that this subject is a timely one for everyone. Most people are allergy-conscious and while this volume is not intended to treat allergy, enough knowledge can be obtained from it to enable many people to detect their sensitivity by a process of trial and error." The authors have kept the book free of heavy medical terminology so that everyone can read and understand it.

Essentials Of Dermatology, by Norman Tobias, M.D., Senior Instructor in Dermatology, St. Louis University, Second Ed., Illus., 497 pp., J. B. Lippincott Co., Phila., $4.75.

For greater clarity many paragraphs in this second edition have been completely rewritten, others widely elaborated. Close attention has been given to vitamin and sulfonamide therapy, physiotherapy, pathology of various dermatoses, newer ointment bases. An added attraction is the new photographs, principally from the author's collection. The latest accepted treatments are described fully, those now obsolete have been omitted. Military dermatology receives its share of attention; while not discussed as a separate subject, the common diseases in this group, animal and vegetable parasitic diseases, pyodermas, plant dermatitis, are fully covered under their respective headings. Brief descriptions of the rarer dermatoses complete this text as a reference work.

Toxicology And Hygiene of Industrial Solvents, Edited by K. B. Lehmann and F. Flury, Translated by Eleanor King and Henry F. Smyth, Jr., 378 pp., The Williams & Wilkins Co., Baltimore, $5.

This monograph—a translation from the German—is generally acclaimed as the most detailed and useful book on the subject and will be extremely valuable in combating effectively what is probably the most widespread chemical hazard in United States industry: exposure to solvents. The contents of the book is predominantly of a medical nature. However not only physicians but anyone who has any contact with industrial solvents will find it a source of information that is readily understood and applicable. Experimental-toxicological investigations form the nucleus of the book. They include studies of the hydrocarbons of the benzine and benzol series, the important chlorinated hydrocarbons, the alcohols, esters, etc., and the glycol group. Around these studies are grouped discussions of chemistry and technology, chemical analysis, skin injuries, and dangers to health and health protection.

Primer Of Allergy, by Warren T. Vaughan, M.S., M.D., Second Ed., 176 pp., Illus., C. V. Mosby Co., St. Louis, $1.75.

This is a guidebook for those who must find their way through the mazes of this strange and tantalizing state. Its primary purpose is instruction of the patient so that he may better collaborate with the physician, and this it fulfills, with due recognition of individualism in medical practice. There have been no basic changes in the second edition. But it has been brought up to date. It will help the individual who experiences allergic symptoms to gain a more rational insight, and to adjust himself with greater success to those environmental factors which contribute to his discomfort.

An Outline Of The Chemistry Of The Carbohydrates, by Ed. F. Degering, Professor of Chemistry, Purdue University, 474 pp., John S. Swift Co. Inc., Cincinnati, Planographed $6.

This outline of the chemistry of the carbohydrates is the result of the accumulation of data over a period of years by the author and his graduate students in connection with the development of a course at the graduate level in the chemistry of the carbohydrates. Contents: Division A. General Introduction—Chapters I—Some Historical Highlights. II—Definitions, Classification, Occurrences, and Uses. III—Stereoisomerism in the Carbohydrate Series. IV—Relative Configuration of the Monosaccharides. V—Relative and Absolute Configurations. VI—Structure of the Disaccharides. VII—Structure of the Tri-, Tetra-, and Polysaccharides. Division B. Terminology—Chapters VIII—Nomenclature. Division C. Preparations of Carbohydrates—Chapters IX—Photosynthesis. X—Commercial Isolation and Production. XI—Synthesis of Mono- and Disaccharides. Division D. Physical Properties—Chapter XII—Physical Properties. Division E. Chemical Properties—Chapters XIII—In-Vitro Reactions of the Monosaccharides. XIV—In-Vitro Reactions of Oligo- and Polysaccharides. XV—In-Vivo Reactions of the Carbohydrates. XVI—Industrial Applications and Developments. XVII—Identification of the Carbohydrates.

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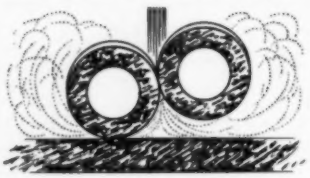

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THIAMINE VS MOSQUITOES

W. R. Shannon (*Minnesota Med.* 26:-799, 1943) reports that thiamine chloride in adequate dosage may act as a mosquito repellent, relieve the itching usually following a bite and minimize or prevent the formation of a papule at the bite site. It has been found that for rapid results, the initial dose of the vitamin should be large. By prescribing thiamine in 40 mg. doses every four hours, Shannon came to the conclusion that administering from 80 to 120 mg. of the vitamin during the first twenty-four hours will produce satisfactory results in almost every individual before the second day arrives. Just how thiamine taken by mouth produces these effects is not understood. However, some patients have noticed that there is a characteristic odor emanating from the skin of persons receiving large doses of thiamine chloride. This might be a factor in causing mosquitoes to avoid such persons. Nonetheless, local application of an ointment containing thiamine had no mosquito repelling qualities.

INUNCTION OF METHYL SALICYLATE

Some interesting conclusions have been arrived at by R. Beutner, B. Calesnick, E. Powell and L. Bortin (*J. Lab. & Clin. Med.* 28:1655, 1943) after studies on the absorption and excretion of methyl salicylate administered by inunction. Tests were made on 83 individuals on whom a total of 103 inunctions were made. Three ointments were used: anhydrous lanolin, lanolin with menthol, and a special aqueous base; each containing 20 per cent of methyl salicylate.

Compilation of findings showed that the vehicle used to apply the salicylate to the skin appeared to have no influence upon the amount of the drug excreted in the urine. It was also found that excretion of salicylate after oral administration of acetyl-salicylic acid is on the same level as that from cutaneously applied methyl salicylate. Hence these workers feel that if the excretion is virtually the same it is only logical that absorption into the blood stream and the systemic influences exerted also must have been the same. Their figures appear to justify the conclusion that methyl salicylate upon cutaneous application exerts not only its long-established counterirritant influence (e.g. vasodilatation, decongestion, induction of active hyperemia), but also a systemic action which perforce must be analgesic, antipyretic, and antirheumatic, since these properties are common to the salicylates upon absorption. They believe that adequate inunction of suitable methyl salicylate-containing ointments must be considered internal medication.

PENICILLIN ASSAY

A rapid method of determining penicillin is given by U. Wilson in *Nature* (152:476, 1943). The test is based upon the inhibition by penicillin of the growth of a suitable group A *B*-hemolytic streptococcus, a 5 per cent suspension of washed sheep cells being used as an indicator. The penicillin to be tested is diluted to about 1 unit per mil. From this dilution quantities 0.20-0.10 are measured in 10 per cent steps, by means of a micrometer syringe, into 8 cm. x 1 cm. tubes containing 1 mil. of nutrient broth. To each tube is then added 0.2 mil. of a suspension of 500-700 x 10 organisms per mil. and 0.8 mil. of sheep cells. The tubes are then mixed by inversion and incubated in a water bath at 37° C. for approximately 3-3½ hrs. They are then centrifuged and read for hemolysis. A suitable standard and controls are included with each rack of tests.

CALCIUM ALGINATE JELLIES

Although alginic material is usually separated from seaweed as the calcium salt, it is necessary to convert it into the sodium salt or other soluble alginate before the properties of the alginates can be utilized in forming clear viscous solutions and gels for cosmetic and pharmaceutical purposes. According to British Patent 555,940, granted to Albright & Wilson, Ltd. and C. W. Tod, the calcium salt can be employed directly to produce clear solutions or gels by the use of certain compounds capable of forming stable complexions with alkaline-earth ions. Sodium hexametaphosphate and sodium tripolyphosphate are effective for this purpose; and sodium citrate has also been found valuable in this connection.

An example of such usage is given in a method for preparing a glycerine hand jelly. This is done by dissolving sodium citrate in water, adding glycerine and a preservative, and then stirring in the calcium alginate; preferably finely ground. With the correct concentrations, a jelly will form in a few hours. Thus, 20 grams of sodium citrate dissolved in 1 liter of water with 800 cc. of glycerine is sufficient to deal with 30 grams of calcium alginate.

In another example, 1 gram of sodium hexametaphosphate is dissolved in 100 cc. of water and then 2.5 grams of calcium alginate is added with stirring. On standing a clear jelly forms that can be used as the basis of cosmetic or pharmaceutical products.

BARRIER CREAMS

In a talk delivered in London and subsequently abstracted in the *Pharmaceutical Journal* (151:203, 1943), A.R.G. Chamings pointed out that the greater incidence of occupational dermatoses, particularly in war industries, has again brought to the fore the apparent

need for skin protectives of one kind or another. Of the total of occupational diseases, excluding accidents, almost two-thirds are affections of the skin, and these represent more than 10 per cent of all occurrent dermatoses. Their prevention or cure is therefore of the highest significance, especially at the present time, but the immediate consideration is prophylaxis.

Unfortunately, dermatologists are already discovering that in many instances, the conditions which they are called upon to treat are chemical dermatoses arising from the use of barrier preparations.

In view of these newer complications, Chamings is of the opinion that for a barrier to be successful it must (1) be easily spread and removed, (2) be stable in the presence of the irritant, (3) neither dehydrate, defat, or insulate the skin, and (4) must form a continuous, i.e., unbroken pellicle, and so effectively block the hair follicles and sebaceous glands at least temporarily. Whether any combination of known agents can do this is open to question. This worker feels that cleanliness is of unquestionable paramount importance in preventing dermatoses and that the availability of liquid soap would largely solve the problem of occupational skin disorders. In any case, the application of a barrier is worse than useless on an unwashed skin.

MODIFIED STEARIC ACID ESTERS

A number of tentative data sheets issued by the Atlas Research Laboratories of the Atlas Powder Company describe a series of compounds that should be of interest to cosmetic and pharmaceutical chemists. Included in these sheets are descriptions of the properties of a series of modified stearic acid esters (Atlas G-2148, G-2149, G-2150, G-2152, G-2170). These have been suggested as being useful as solubilizing agents for essential oils, as oil-in-water type emulsifiers and as bodying agents for certain oil-in-water emulsions. Some of these esters are said to possess unusually wide solubility ranges.

Two modified fatty acid esters of the ricinoleate type (G-405, G-407) have found use in various cosmetic products as water or water-alcohol soluble oils. A modified mixed stearic-oleic ester (G-1500), described as a water-in-oil type emulsifier, is of interest because it permits the preparation of stable emulsions without the use of emulsification equipment.

MECHANICAL STABILITY OF EMULSIONS

Described by R. C. Merrill Jr. (*Ind. & Eng. Chem., Anal. Ed.* 15:743, 1943) of the Western Regional Research Laboratory a rapid quantitative method for determining the mechanical stability of emulsions involves measuring the rate of separation of internal phase under a constant centrifugal force. The reciprocal of the initial rate of separation at a constant centrifuge speed has been taken as a quantitative index of the mechanical stability of the emulsion. The method has been applied to both water-in-oil and oil-in-water emulsions stabilized by lecithin, soaps, and vegetable gums. It gives results in a few hours apparently comparable to those obtained by more tedious methods involving other factors and requiring measurements over many months.

Definite effects of the age of the emulsion on its mechanical stability as determined by this method have been found in the case of soap and saponin-stabilized emulsions.

PREPARATION FOR GRAIN ITCH

Grain itch, caused by the mite *Pediculoides ventricosus*, is also known by such varied names as acarodermatitis urticaroioides, barley itch, grain mite dermatitis, straw itch and hay itch. According to G. K. Rogers (*J.A.M.A.* 123:887, 1943) treatments for destroying the mites on the body are useless and remedies for relieving the subjective symptoms of the bites are all that are necessary. Among these are warm demulcent baths such as oatmeal or linit starch and mild antipruritic lotions such as one consisting of:

Phenol	1 cc.
Zinc oxide	30 Gm.
Glycerine	4 cc.
Lime water	15 cc.
Rose water, to make	120 cc.

It has also been reported that the mite can be eliminated by dusting the buildings, granaries and other material that comes in contact with grain and straw with powdered sulfur.

METHYL BROMIDE FOR LICE

An item in *Science News Letter* for January 1, 1944 notes that methyl bromide, used by soldiers for killing body lice (cooties in World War I), is now packaged in a glass vial which is placed with the clothes in a special bag. A blow breaks the vial thereby releasing the insecticidal fumes so that they may act in an efficient manner against the annoying and sometimes dangerous pests.

RICE BRAN OIL IN COSMETICS

By the use of rice bran oil and its sulfated or saponified derivatives, G. D. Davis claims to overcome certain disadvantages of cosmetic preparations, more especially shampoos. In U. S. Patent 2,336,166 (assigned to National Oil Products Co.), this inventor states that unlike many cosmetic preparations which tend to remove the natural oils from the skin and scalp, the use of rice bran oil and its derivatives in such preparations has the effect of neutralizing any tendency of the particular cosmetic preparation to remove natural oils from the skin or scalp. In addition, the oil is claimed to possess excellent skin lubricating action and to be particularly effective for nourishing the skin.

Methods for sulfating rice bran oil are described. Although the patent is based essentially on methods for making non-foaming shampoos, the use of the oil and its derivatives is given for producing such cosmetics as a lathering shampoo, skin oil, cold cream and shaving cream. Thus a skin oil is prepared by blending 80 parts of rice bran oil with 18 parts of paraffin oil and 2 parts of lecithin. Such an oil is said to impart a smooth, pleasant, oily feeling to the skin and greatly relieves irritation due to chapping or chaffing.

GLOVE TALC SUBSTITUTE

Because talcum powder, such as is used for powdering rubber surgical gloves, constitutes a grave menace as a foreign irritating body in surgery, M. G. Seelig, D. J. Verda and F. H. Kidd (*J.A.MA.* 123:950, 1943) sought a safer but efficient substitute. Several considerations had to be taken into account but it was finally discovered that potassium bitartrate was suitable. It meets the physical requirements imposed by steam sterilization, is readily and harmlessly disposed of by body tissues and fluids, and it causes no consequent peritoneal adhesions. In addition, potassium bitartrate possesses a certain degree of bacteriostasis against certain organisms. However, subsequent findings indicate that bitartrate-treated rubber gloves will stand up under about half the number of sterilizations as compared with talc-treated gloves.

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ADVANCING THERAPY

NEW USE FOR PLASMA

M. E. Sano and C. A. Holland (*Science* 98:524, 1943) have extended the principles involved in the coagulum-contact technic of skin grafting to the control of bleeding and the promotion of healing in traumatic injuries of the liver. In the new method, which replaces suturing, equal quantities of plasma and cell extract are mixed together just before using. The bleeding surfaces of the liver which are to be joined are exposed and the mixture is rapidly brushed over both surfaces with a sterile camel hair brush, and the surfaces are firmly held together for about three minutes. When released, they will adhere firmly to one another.

Experiments on fifteen dogs and one human subject indicate that this new procedure is extremely simple and uses the physiological principles of blood clotting and wound healing, thereby eliminating any extraneous factors which might complicate and endanger the individual's life in some other way. Sano and Holland express the hope that their method may be of use in the treatment of war wounds.

WARNING ON AMPHETAMINE FOR OBESITY

The Council on Pharmacy and Chemistry of the A.M.A. has recently issued a warning (*J.A.M.A.* 123:1117, 1943) on the use of amphetamine sulfate (benzedrine sulfate) in the control of obesity.

As a result of recent articles appearing in a well known lay publication as well as in some scientific journals, the Council's office has been receiving inquiries concerning the use of amphetamine sulfate in the control of obesity. This office has been further informed that mixtures containing amphetamine sulfate are being exploited for use in obtaining weight reduction. In view of the dangerous effects which might come from the exploitation of this drug for use in obesity the Council desires to go on record as disapproving general recognition of claims for such use of amphetamine sulfate. The Council will follow closely the use of amphetamine sulfate in the treatment of obesity and will make available another statement if there should appear sufficient information to justify such action.

BENZYL CINNAMATE FOR DEAFNESS

J. Jacobson (*Arch. of Ololaryng.* 38:-365, 1943) noted in the course of treatment with benzyl cinnamate of corneal opacities in 2 patients with interstitial keratitis and deafness a regression of the corneal lesions and improvement in hearing. He next treated 45 patients with deafness who had failed to respond to the classic method of treatment. Each patient received one intramuscular injection of 0.33 to 1 cc. of a 3.2 per cent solution of benzyl cinnamate for a period of twelve days. He was then allowed a period of rest of ten to fifteen days. Thereafter the injections were resumed, and after the third series of injections the patient was given one month's rest. The same cycle may be repeated after an interval of about two months. A follow-up of 32 patients revealed that 17 stated that their hearing had improved; of the 24 who complained also of tinnitus, 2 reported its disappearance, 7 stated that it had diminished, while 15 observed no change. Dizziness which had accompanied the deafness in 9 of the 32 patients disappeared in 3 and diminished in 5.

CO_2 SNOW FOR SKIN DISEASES

If properly performed, C. C. Carpenter (*J. Med. Soc. New Jersey* 40:354, 1943) believes that cryotherapy with carbon dioxide snow is safe, efficient, and simple in correcting many skin diseases. As the temperature of carbon dioxide snow is -70° C., most of its action depends on quick freezing of the part. The factors of time and the amount of pressure used, then, becomes of paramount importance. Because of the importance of the time element, a watch with a visible second hand should always be used. The amount of pressure needed can quickly be learned by experience and is roughly classified as heavy, medium, and light.

The scarring which remains after a deep treatment, as a rule, is of a smooth, pliable, cosmetically good type and rarely becomes keloidal. For this reason, carbon dioxide snow therapy is more safely used around the eye than other destructive methods, as ectropion does not result. However, great care should be taken in working near the eyes or mouth with naked sticks, as small particles frequently fragment from the sides and may produce severe injury, especially if inhaled.

Details of the cryotherapy technic with carbon dioxide snow are given for treating such common skin diseases as: acne, angiomas, corns and callosities, eczema, keloids, lichen planus, lupus erythematosus, molluscum contagiosum, nevi, psoriasis, rosacea, senile keratoses, seborrheic keratoses, TB cutis, verrucae and xanthomas.

IMPETIGO THERAPY STUDIES

Twelve types of treatment in impetigo were tried out by H. L. Sheehan and A. G. Fergusson (*Lancet* 1:547, 1943); the investigations being made on 97 soldiers with active impetiginous lesions in an uncomplicated state. The main conclusions derived from these tests are as follows: (a) Sulfathiazole appears to have a definite curative effect. (b) Sulfanilamide when mixed with oleic acid and lanolin or cod liver oil

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does not appear to be of any value as compared with non-specific treatments. (c) Zinc paste (Lassar's) has an adjuvant action but has no direct action on impetigo. (d) Ung. hyd. ammon. gives relatively poor results. (e) Gentian violet alone is also an unsatisfactory treatment despite its antiseptic effect on cocci. (f) The response to treatment did not appear to depend in any way on bacteriologic findings. (g) Circinate impetigo healed as well as ordinary impetigo with each treatment. (h) Nothing dogmatic can be said on the question of whether crusts should be removed.

The following compound paste produced the most satisfactory results:

Copper sulfate	3 gr.
Zinc sulfate	2 gr.
Precipitated sulfur	5 gr.
Sulfathiazole.....10 tablets.....	powdered
Zinc oxide	½ oz.
Starch powder	½ oz.
Soft paraffin	1 oz.

Both the compound paste and a compound sulfathiazole powder (sulfathiazole 10 powdered tablets, zinc oxide ½ oz. and starch powder ½ oz.) produced steady healing from the first day of application, with no flare-up in the lesions as was experienced in the other methods of treatment. The cases treated by these two methods were of all types, many with gross confluent lesions.

PENICILLIN IN SURGICAL INFECTIONS

In an extensive report on penicillin therapy of surgical infections in the U. S. Army. C. Lyons (*J.A.M.A.* 123:-1007, 1943) indicates the value and the limitations of this potent agent. In summarizing his report, Lyons pointed out that penicillin has been administered intravenously, intramuscularly, intrathecally and locally. The indications for each of these routes have been established. The untoward complications noted have been limited to urticaria and other reactions suggesting an analogy to serum sickness. The reactions are transient during therapy and there is no permanent sensitization. No significantly harmful effects have been observed.

Penicillin is an effective antibacterial agent in the treatment of acute infections caused by staphylococci, hemolytic and nonhemolytic streptococci, mixed infections due to gram positive bacteria and actinomycosis. The gram negative diplococci are susceptible to treatment. Gram negative bacilli are resistant. Mixed infections with both gram positive and gram negative bacteria may be benefited through the effect on the susceptible bacterial species. Malaria has not been controlled by penicillin.

Penicillin therapy permits a direct and immediate surgical approach to the management of septic gunshot fractures. Its role in this regard is analogous to the use of vitamin K for patients with obstructive jaundice. Such a concept emphasizes the limitations of penicillin therapy and designates the supplemental position of penicillin in the overall surgical program.

LOCAL SUCCINYL SULFATHIAZOLE THERAPY

Because previous workers had claimed that succinylsulfathiazole is split by bacteria to form free sulfathiazole, it occurred to R. J. V. Pulvertaft and D. H. MacKenzie (*Lancet* 2:379, 1943) that its external application might provide a continuous potential source of free sulfathiazole, the rate of breakdown being roughly proportional to the severity of the infection. It was found that the breakdown of succinylsulfathiazole into free sulfathiazole in ordinary solvents—including plasma, cerebrospinal fluid and fluid from wounds—is too small to produce a dangerous blood concentration. Succinylsulfathiazole applied locally in the form of a 20 per cent hydrous wool fat cream appeared to limit quickly and effectively the gram-positive flora, control suppurations and accelerate healing. No toxic or irritant properties were noted. Absorption was less than 1 mg. per hundred cubic centimeters of blood. The cream was heated to 40° C. and then applied to wounds with a syringe used as a grease gun. The "reservoir" potentialities of succinylsulfathiazole are a unique feature. If the drug is used intraperitoneally, the hydrous wool fat cream should not be used, as it acts as a foreign body.

SULFADIAZINE AND COLDS

Because there is so much divergence of opinion on the value of the sulfonamides in the treatment of upper respiratory tract infections, R. L. Cecil, N. Plummer and W. G. Smillie (*J.A.M.A* 124:8, 1944) undertook a carefully controlled study of the efficacy of sulfadiazine in the treatment of the common cold. In this work, seventy-two colds in 66 persons were followed clinically and bacteriologically. Forty-eight of the subjects received sulfadiazine 3.0 Gm. daily by mouth for four days, while the remaining 24 served as controls. Bacteriological studies of the nasopharangeal flora showed a uniform decrease in the total number of organisms and a check in the growth of pathogens following sulfadiazine therapy. Nonetheless, the clinical course of the treated colds showed no striking difference from that of the controls. However, these appeared to be some amelioration of symptoms due to control of secondary bacterial infection.

As a result of this study, Cecil and his associates are opposed to the routine use of sulfonamides in the treatment of the common cold, but would favor their use in a few selected cases as a protection against severe secondary infection.

PENICILLIN FOR ENDOCARDITIS

An item in the *N. Y. Times* for December 17, 1943, reports the remarkable results obtained with penicillin, in conjunction with heparin in the treatment of seven cases of subacute bacterial endocarditis by L. Loewe and his associates at the Brooklyn Jewish Hospital.

While refraining from using the word "cure," the report described eight of the patients as being free of the disease-causing bacteria and minus all the other symptoms generally associated with the disease. The patients' temperature was again normal and the blood no longer showed any tendency to form the clots that ultimately prove fatal. Two other cases have not responded to the same degree as the first group and a third patient is still under treatment. The new therapy, in contrast to previous attempts to treat the heart disease, requires relatively large quantities of penicillin. Thus, it takes from 1,000,000 to 8,000,000 units of penicillin (about 100 to 800 grains) to treat effectively one case of subacute bacterial endocarditis, it was learned, as against 100,-000 units for one case of pneumonia and 30,000-50,000 for staphylococcus infection. In other words, the lives of ten pneumonia victims and twenty to thirty osteomyelitis cases could be saved as against only one life in the heart disease, taking the million unit as the criterion.

Because of the large quantities required, the special committee of the National Research Council has been forced to withhold penicillin for use in the treatment of this condition until larger supplies are available.

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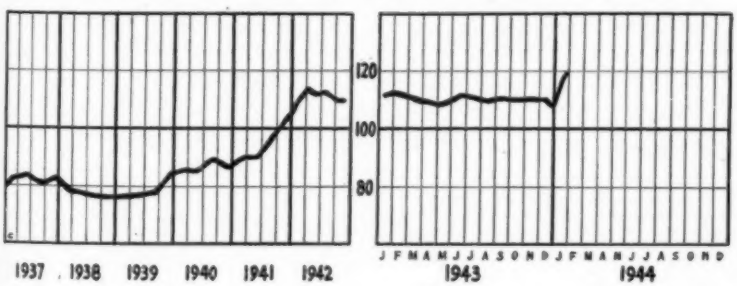
Cananga oil Native 25c	Grapefruit oil 5c	Senega root 2c

Down

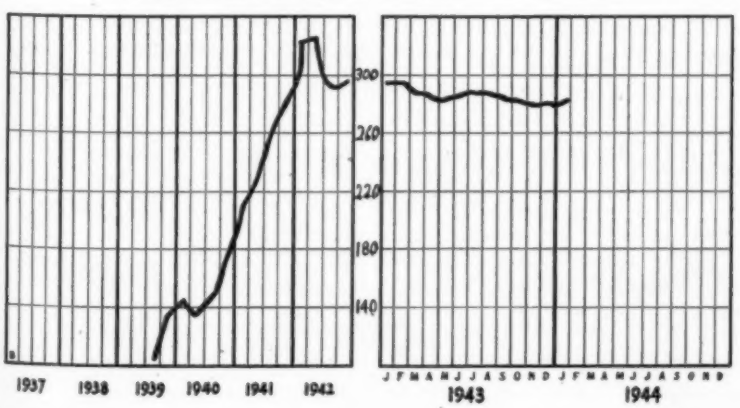
Almond sweet 5c	Clove oil 10c	calomel 20c
Arabic sorts ½c	Coriander oil $6.50	red precip. 20c
Cajuput oil 30c	Lemon grass oil 20c	white precip. 20c
Calamus oil $1.50	Mercury metal $50 flask	Rhubarb root HD 30c
Candelilla wax 8c	bichloride 15c	Safrol 40c

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw materials index advanced to 114.3 from the previous 103.7. Balsam Peru jumped 15 cents to $1.25; menthol rose sharply to $16.50. Cancelilla wax was lower at 36 cents. Recent visitors to Brazil brought word that, although menthol would not be available from that source in quantities equal to earlier predictions, March should see arrivals on the increase.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index declined to 282.4 from the previous 283.4. The only change in this group was reported in rhubarb which went from $1.15 a pound to 85 cents. There was comparatively little activity after the turn of the year. Spot supplies of most items, however, would not indicate an easier trend in general.

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BODY RUBS: Isopropyl Alcohol evaporates slowly, thereby prolonging the cooling effect when used in body rubs. Isopropyl Alcohol has no denaturants.

FACE AND HAND LOTIONS: Isopropyl Alcohol evaporates slowly, has little tendency to dry the skin, and aids in keeping the skin soft.

AFTER SHAVE LOTION: Isopropyl Alcohol is excellent for this product because it aids the after-cooling and skin-freshening qualities of the lotion.

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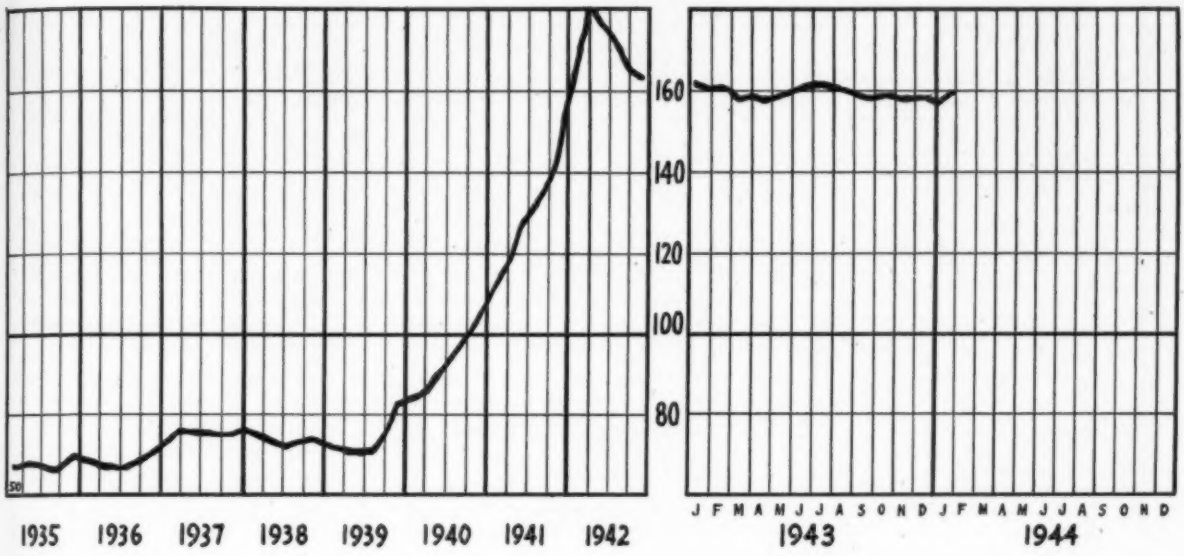
50 Raw Materials—Weighted Price Index. 1926=100.



The price index of fifty commodities for January, 1944, advanced to 160.7 from the previous 158.1. The primary problem of the industry for 1944 is that of basic supplies. The supply outlook, in some instances, is brighter. Freer shipping routes and greater available shipping space have done much toward bringing in needed supplies—particularly from South America. Various basic commodities, however, will continue in small supply and under controlled distribution.

• Prices quoted in this section were current on the first of this month.

MERCURY

Production of mercury for 1943 has been estimated by the Bureau of Mines at 53,500 flasks. This compared with an actual production of 50,846 flasks in the preceding year, 1942. The production last year was the largest since 1881, according to authoritative sources in the trade. The data released by the Bureau of Mines is the first in about two years.

Suspension of Federal buying and larger holdings further weakened the mercury market. Termination of the Government's purchasing plan became effective January 31. Based on reports, the Government is believed to have a sufficient stockpile of this vital material to last approximately two years.

These factors naturally weakened the mercury market considerably. Since the beginning of the period under review there were several drastic price reductions, amounting in all to about $50 per flask, placing the current spot market at $140 per flask.

In keeping with the decline in mercury, quotations on major mercurials have been lowered 15c to 20c per pound. This is the first change to take place in the derivatives since July, 1941.

It is understood the minor salts will be reduced proportionately in the very near future.

The new and lower price on corrosive sublimate used as a local antiseptic in medicine is $2.09, off 15c from the previous quotation in effect, while calomel is 20c lower at $2.75 per pound.

Both red and yellow oxides are 20c lower. Red oxide finds a wide use in the manufacture of marine and other paint pigments; mercury salts and in medicine.

DRUGS

The primary problem of the drug and pharmaceutical industry in 1944 is that of basic supplies—botanical drugs and medicinal chemicals for processing finished medicinals. The supply outlook for botanicals, in some instances, is brighter. Freer shipping routes and greater available shipping space have done much toward bringing in needed crude drugs—particularly from South America—and with the coming year some of the shortages will be less critical. Important items from Latin America include cinchona bark for quinine; ipecac, valuable for its alkaloid emetine; stramonium, an important substitute for belladonna and also a valuable source of scopolamine; coca leaves for cocaine; fish livers for vitamins, glandulars (thyroid, pancreas, and so on); and cocoa beans, of which the shells and residue are important for the production of caffeine.

The opening of trade with Northern Africa is expected to contribute to dwindling stockpiles. A partial resumption of contact with the Italian and Central European botanical drug market can be expected to follow liberation of additional countries now under Nazi control. This area has been an important source of numerous crude drugs. Some improvement can likewise be expected for supplies of crude drugs coming from the Far East. A number of items already have been received in larger quantities, particularly from British India. Commodities of varying importance to drug manufacturers are moving somewhat freer out of the Near East, but no immediate outstanding improvement can be anticipated.

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In 1942 Chile's exports of quillay were valued at about $17,800. The United States is one of the foremost markets for this product.

DERRIS

Derris cuttings, 100,000 of them, have been planted in Haiti under an agreement between Haiti and the Commodity Credit Corporation. Under this agreement, the United States will get the entire production. Before the war large quantities of rotenone, the powerful insecticide derived from derris roots, came from Malaya.

The cuttings were shipped to Haiti from the United States Department of Agriculture's experiment station in Mayaguez, Puerto Rico. The Haitian Department of Agriculture determined where the cuttings would grow satisfactorily and they distributed them to small farmers. Two years are required from planting to production.

Cuttings from the Mayaguez station have also been flown to Mexico and to Central and South America. Mexico has some 60,000 rooted plants, while the six republics composing Central America have slightly over a million. The goal is to have 1½ million cuttings planted in Central America and Mexico by spring. Colombia, Eduador, and Peru are also interested in producing this plant. Among them they have over 400,000 plants, and the numbers are increasing.

CITRONELLA

Several clumps of citronella grass (Cymbopogon nardus) from the north coast of Honduras have been planted at the Nicaraguan Government nursery at Masetepe and at the United States-Nicaraguan complementary crop experiment station near El Recreo. As soon as propagation stocks are available, clumps of the citronella will be distributed to persons interested in growing it. No appreciable amount of citronella is expected to be available for export in the near future, however, because this plant was brought to Nicaragua only a few months ago. The United States formerly imported about 99 per cent of its supply of citronella oil from areas now overrun by Japan.

VITAMINS

Niacin (Acid Nicotinic) was reduced in price during the current trading period. The following schedule now prevails: 50 ko. f. drum $8 per kilo; 10 ko. f. drum, $8.10 per kilo; 125 gram. bot. $1.34 per bot.

Riboflavin was also further reduced to the following basis: 100 gram. bots. or larger, $341.70 per kilo; 5 gram. s.c.b., 37 c per gram.

Vitamin B_6 was reduced $250 per kilo and is now offered at $1000 per kilo in 500 gram s.c.b.; 50 gram s.c.b. is $1.03 per gram.

TOTAQUINE

From information at hand, only limited supplies, if any, of quinine salts will be available for civilian use; but to relieve this situation, adequate supplies of cinchona bark for the production of totaquine have been made available by the War Production Board in cooperation with the Defense Supplies Corporation.

Maximum Price Regulation 278, Amendment 2, effective January 5, 1944, has established revised ceiling prices on Totaquine for the various levels of distribution. Subject to the terms of WPB Order M-131, producers quote the following schedule: 1 oz. bot., 56c per ox.; 5 oz. ctn., 55c per oz.; 25 oz. ctn., 53c per oz.; 100 oz. fibre drum, 52c per oz.

Persons seeking authorization from the WPB to accept Totaquine in quantities larger than eight ounces must file under the terms of WPB Oder M-131, WPB Form 2945 (PD-600) with the WPB in triplicate, one copy of which must accompany their order to their suppliers, with end uses specifically stated, on or before the fifteenth of the month prior to the month in which delivery is desired.

Order M-131 gives complete instructions on the details of filing, etc.

OLIVE OIL

Olive oil production is Spain in 1943 was expected to be about twice that of 1942. Revised estimates by the trade have placed 1943 production at from 380,000 to 400,000 metric tons; the previous harvest was estimated at 200,000 tons.

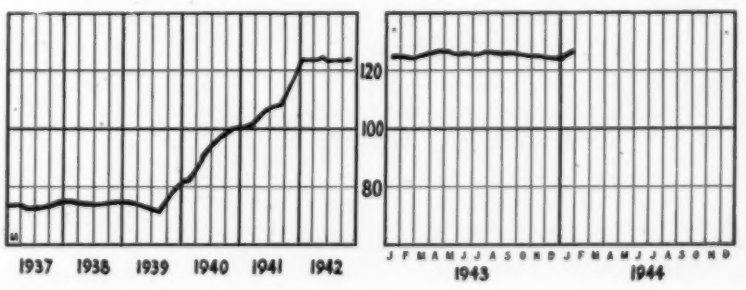
That there is an abundance of olives is evident from the Government's granting permission to pickle various varieties of green olives.

The olives are reported to be of good quality, and harvesting proceeded normally though gasoline and tire shortages added transportation difficulties, and pressing plants had less electricity than in former years.

Blended olive oil is being rationed in Seville at the rate of one-half liter each 2 weeks. Previously, one-fourth liter of fine or ordinary olive oil had been allotted weekly.

Besides rationing, the Spanish Government has further control over the industry, including production, distribution, and price.

15 Medicinal Chemicals—Weighted Price Index 1926=100.



The medicinal chemical index advanced to 128.2 from the previous 125.5. This was occasioned by the rather sharp jump in menthol to $16.50. Mercury declined to $140 a flask. Mercury was in ample supply and at this writing was weak at the spot quoted above. Mercurials declined in line with the easier raw material position.

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GUM TRAGACANTH

Usually reliable sources estimate the production of gum tragacanth in Iran for the year ending March 21, 1944, at about 2,500 metric tons, which is only about two-thirds of the output of 4,000 metric tons for the year ended March 21, 1942, and is only 25 per cent greater than the quantity normally exported to the United States.

The decrease in production is said to be caused largely by higher cost of labor, but in part, also, by the unpredictable conditions brought about by the war. Also, a greater building and road construction industry has tempted workers to take other jobs.

At present, the Iranian Gum Tragacanth Export Co., Ltd., buys about one-half the production for export, but in 1940-41 it took from 90 to 95 per cent of the trade.

Although shipping problems and wartime restrictions have made it more difficult to get gum tragacanth from Iran, stock on hand there reportedly is small. Estimates of the supply vary from 500 metric tons to twice that amount, as compared with about 1,500 metric tons which were available in 1941.

Prices of gum tragacanth are from 100 to 150 per cent higher than in 1941. It is said, however, that in proportion to the increases in prices of other Iranian export commodities these increases are not remarkable.

PEPPERMINT OIL

As a result of extensive experiments in growing peppermint for its oil content by the University of Texas, there is every indication that this crop can be cultivated successfully on irrigated Texas lands. Dr. C. C. Albers, associate professor of pharmacognosy, has obtained varieties of Japanese and Oregon peppermint through the United States Bureau of Plant Industry and is now experimenting to determine its oil content. The irrigated district of the lower Rio Grande Valley is considered a favorable locality for mint cultivation.

VANILLA BEANS

While it is still too early to estimate the 1944 vanilla bean crop of the Society Islands, French Oceania, it is believed that it will be larger than the crops of 1943 and 1942 (90 to 120 tons, respectively), because of the heavy planting of beans during 1941 and 1942, when prices were high.

Vanilla bean prices on the Papeete market during the third quarter of 1943 were much lower than during the corresponding period of 1942.

The war export tax for the fourth quarter of 1943 has been fixed at 52.30 francs per kilogram (about 54 cents per pound in United States currency). At the present vanilla bean prices, the export tax of more than 50 cents per pound is sufficient to make a decided difference in whether there is a profit or loss in handling the product. Therefore exporters are likely to be influenced by this factor with respect to the amounts they will be willing to ship.

The carry-over as of October 1, 1943, is estimated to be about 50 tons. This represents the last of the 1943 crop.

GUATEMALA

Essential oil production in Guatemala has shown a measurable increase in the first 9 months of 1943 over that of the comparable period of the preceding year. The quantity of citronella, eucalyptus, and lemongrass oils exported was about one-third greater, and the value of those three products was more than 70 per cent larger, from January to September 1943 than for the first three quarters of 1942. Guatemala shipped 102,683 pounds of citronella oil, 139,986 pounds of lemongrass oil, and 2,384 pounds of eucalyptus oil valued at a total of $405,896, during the first 9 months of 1943 compared with a combined total of 183,195 pounds valued at $236,616 for the corresponding months of 1942.

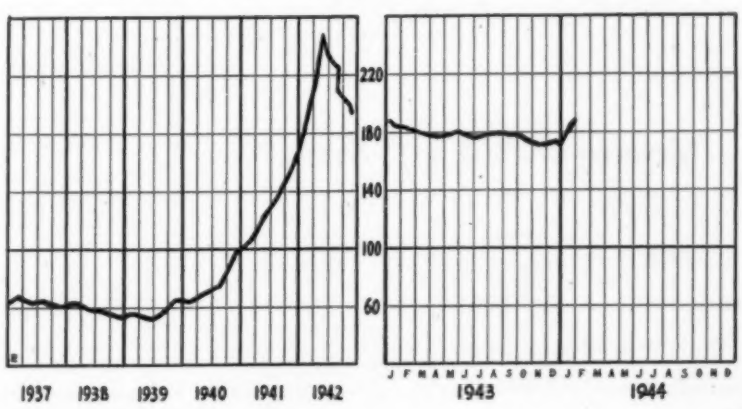
COD LIVER OIL

Cod liver oil production in Iceland in 1943 was greater than in 1942, but smaller than the 1939-41 high. The price was about the same as in 1941, but somewhat lower than in 1942, say recent reports from that country.

Exports of cod liver oil from Iceland during the first 8 months of 1943 (4,233 metric tons) were only 662 tons less than the 4;895 ton total for the entire year 1938 and were 473 tons greater than exports for all of 1942.

The value of exported cod liver oil per metric ton was more than 4.5 times as great in 1943 as it was 5 years earlier, but, at 3,737 crowns per metric ton was 215 crowns per ton less than in the preceding year.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oil index advanced to 192.8 from the previous 181.6. Anise oil rose from $3.60 to $3.75 per pound; Bois de Rose was 25 cents more at $5.75; cananga oil jumped 25 cents a pound to $8.75. and geranium oil African rose to $13 a pound. The only decline in the group making up this chart was 10 cents a pound in the spot market price for clove oil.

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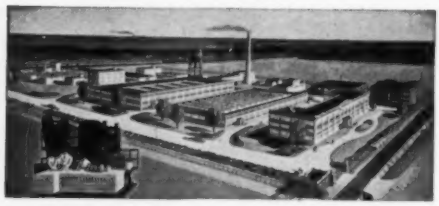

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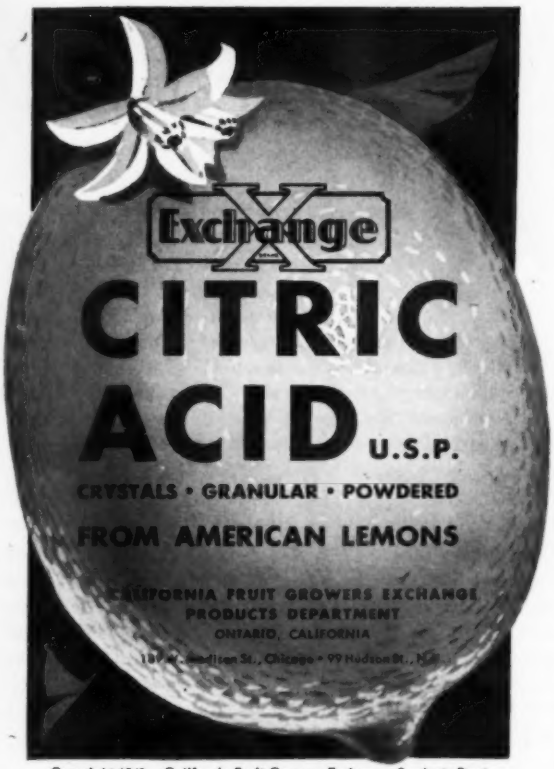

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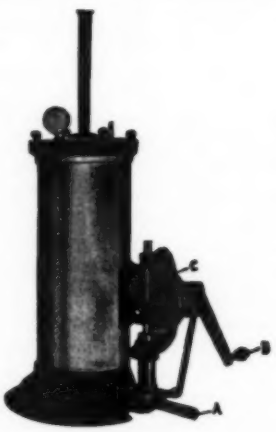

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HAIR LACQUER: I have a client that submitted a sample of hair lacquer for analysis. I feel from preliminary tests that it contains a vinyl resin and is dissolved in isopropyl alcohol. Since this is out of my line, could you give me any formulas of this type of hair fixative? It would help me considerably. Thanking you for any information you might give me. Harrisburg.

Old fashioned hair lacquers generally consist of rosin and gum benzoin dissolved in alcohol, as in the following formula:

Rosin	10
Gum Benzoin	20
Alcohol	70
Perfume	q.s.

Recently however, the newer hair lacquers have begun to employ synthetic resins such as polyvinyl alcohol, ester gums and the like, dissolved in suitable solvents. I have no knowledge as to their exact composition but a recent report indicates that a typical lacquer might contain two synthetic resins brought into solution by means of caustic soda and a small amount of ammonia.

PENICILLIN ACTION: We have a question and would appreciate your help very much, if we are not out of order in asking you.

"How does Penicillin effect its bacteriostatic and bacteriocidal action on microorganisms?" We understand the action of the sulfas as to bacteriostasis, but, we have not been able to find any such description as to the bio-chemical action of Penicillin. We will appreciate hearing from you, in the event you can take the time out to dig this work up for us. Philadelphia.

Despite the considerable data available, the exact mechanism whereby Penicillin creates its effects is still unknown. It is known that the growth of organisms in the presence of the drug temporarily continues unaccompanied by cell division and is followed by lysis. How and why this happens is not known. Penicillin, like the sulfa drugs, is more inhibitory and bacteriostatic than bactericidal. However, Penicillin can be bactericidal under certain circumstances.

PEPPERMINT OIL DETERMINATION: Referring to the article on page 552, November issue of DRUG AND COSMETIC INDUSTRY, *in regard to determining menthol in peppermint oil, can you furnish us with the name and address of the firm that has the information regarding the apparatus with which to do the testing? Hollywood.*

The only piece of apparatus needed is an Ostwald viscosimeter, which may be obtained from any standard laboratory supply house, since it is recognized as a regular piece of laboratory equipment. The test is based upon a comparison of the viscosities of various oils and requires determination of unknown oils against known oil values. Tables have already been worked out in the original article.

EYEBROW DARKENER: Could you give me a formula for a black and brown eyebrow darkener? I want something safe to

QUESTIONS

use and with a luster on the order of a nail polish. Could a clear nail polish be safely used with a certified color added? Give me names of suppliers of the colors for this. Chicago.

I do not feel that I can recommend the use of anything like nail polish for not only do these products contain organic solvents which may be dangerous when used about the eye, but also because other dangerous solvents are necessary for their removal. However, if you wish to make a glossy dressing for the eyebrows, I would suggest that you try an eye shadow preparation containing a high proportion of dye (using certified colors) or pigment. A formula for a typical eye shadow base is as follows, and may be used as an experimental basis.

White petrolatum, short fibre, soft	70.75%
Cetyl alcohol	3.0
Lanolin	10.5
White beeswax	5.25
Spermaceti	10.5

Names of suppliers of certified dyes and colors are available in the advertising pages of our publication.

BALSAM FIORAVENTI: The thought occurred to us that perhaps someone on your staff could aid us in a problem that we have. We are interested in determining the formula for "Balsam Fioraventi" and have not been able to locate it in any of the standard reference books. We would appreciate any help you may give us in locating this information. New York City.

"Balsam Fioraventi" is officially in the French Codex. It is made by macerating fourteen ingredients in alcohol and then distilling. The following is a simplified formula as given in "Pharmaceutical Formulas," Volume 1 (a British publication).

Balsam Peru	15 minims
Oil of terebinth	15 "
Oil of cassia	15 "
Oil of clove	15 "
Oil of juniper berry	15 "
Oil of mace	15 "
Oil of thyme, white	15 "
Alcohol, to make	16 oz.

FACIAL CREAMS: A manufacturer in the Los Angeles area has submitted the following problem: "Information as to the formula for the manufacture of facial creams, and where the ingredients for said creams can be purchased". Your comments and suggestions will be greatly valued. Los Angeles.

The inquiry lacks specificity since there are many types of facial creams, e.g., vanishing creams, cold creams, powder base creams, night creams, day creams, etc. It would suggest that your inquirer purchase one or two standard text books on the subject of cosmetic formulation before attempting the preparation of cosmetics. I would recommend "Modern Cosmetics" by Francis Chilson, published by DRUG AND COS-

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METIC INDUSTRY and "The Chemistry and Manufacture of Cosmetics" by DeNavarre, published by D. Van Nostrand & Co. Both of these books can be purchased directly from our book department. The first, Chilson's text, also includes a source of raw materials and equipment.

ALMOND OIL: We notice in your issue of July 1943, on page 89 you refer to Expressed Almond Oil manufactured in Puerto Rico and you give the characteristics of the oil. Could you put us in touch with the manufacturers as we are interested in this product under present day conditions? Your help in this matter would be appreciated. London, England.

As far as is determinable, the oil is not under more than experimental production. The work of the investigators mentioned is part of a series of studies on the botanical resources of Puerto Rico, and is indicative of the potentialities which it is hoped will attract attention to the country.

Testing and Control of Aromatics

(*Continued from page 159*)

tests, due to the diversity of chemical structures of synthetic aromatics and the complexity of the composition of essential oils. Therefore chemical analysis has its place with the manufacturer of aromatics rather than with the consumer. However, one test is the exception to prove this rule, viz. the determination of the *ester value*. Although it involves a procedure which is somewhat time consuming, ester content is so decisive for the value of some important oils and, of course, all synthetics which are esters, that its determinatioun can be considered for those products.

With the methods lined up the question remains how to get the specifications which each product should meet. This is easy to answer for all items which are U.S.P. products. The Pharmacopoeia gives all their data—and, of course, procedures for all tests mentioned above. And if the product is not U.S.P., it might be N.F. If this fails there is some chance to find naturals in Remington and synthetics in Merck's Index or some handbook which lists constants of organic compounds. Then you can turn to the standard work of Gildemeister & Hoffmann, which, however, is slightly average and does not list items developed in more recent years. And Poucher, whose book has possibly the widest circulation of any work on perfume raw materials fails dismally in giving scientific data.

Thus, with the exception of the few U.S.P. items, it is troublesome to look up specifications. And in the case of many modern or not quite common aromatics it is likely that consultation of several sources fails to reveal any constants. And, of course, no data are available for compounds, although it is perfectly reasonable to run physical tests for them just as for other aromatics. Even if you find the desired information it is frequently not listed in an easily comparable manner. For instance, specific gravity may be given for any of several commonly used temperatures and different bases and sometimes without indication of the basis. In all those cases where book references fail you,

you simply have to set up your own specifications by determining the constants of an aromatic from samples obtained from as many sources as possible.

You will say that all this is not a very satisfactory situation, and we agree with you. Moreover we hope that something will be done about it soon after the war, in the form of a reference book on aromatics which gives the following information for each item:

1. Name or names.
2. Structural formula, if it is a synthetic chemical or principal components, if it is an essential oil.
3. Data for all constants that apply, on the basis of U.S.P. standards whenever possible.
4. Very short notes on use in compounds.
5. Information on degree of discoloration to be expected in various mediums and combinations.
6. Information regarding experience with irritation on skin.
7. Information on incompatibilities and stability.
8. And, perhaps, notes on origin or raw materials used in manufacturing.

Preparations for Treating Asthma

(Continued from page 161)

in 1937,[19] and since that time the clinical usefulness of aminophylline has been confirmed by a large number of clinicians.[4, 17, 20, 21, 22, 23] Given intravenously, the drug often relieves the asthma for several hours and restores the normal reaction to epinephrine.[9]

Barach[24] has found that repeated bronchial relaxation by combined aminophylline administration and helium-oxygen therapy is an effective measure in terminating intractable asthma. For acute cases, Cooke[6] suggests that aminophylline with phenobarbital is helpful. Being a potent drug, aminophylline must be used cautiously, since death has followed its use in some cases.[25]

Another theophylline derivative, theophylline monoethanolamine (thiamin) is also described as being useful in treating asthma and other allergies. According to Lamson and Bacon,[26] this agent is suitable for both oral and intravenous use and may have possibilities as a substitute for ephedrine.

Of course, many other agents have been advocated for parenteral administration in the treatment of asthma. Autohemotherapy has been employed with good results. In some instances the patient's whole blood is reinjected,[27] in others the serum is used.[28] Farmer[29] has employed histamine for treating asthma, while Banszky[30] believes that small doses of gold preparations is the treatment of choice. In Europe, Graeber[31] used insulin as an adjunct in every stage of asthma.

Milder cases and prophylactic measures do not require the parenteral use of potent drugs such as epinephrine or theophylline derivatives. Of the many drugs employed, ephedrine is undoubtedly the most useful. Its action is similar to that of adrenalin and it may be given by mouth in capsules, in pills or in a fluid mixture.

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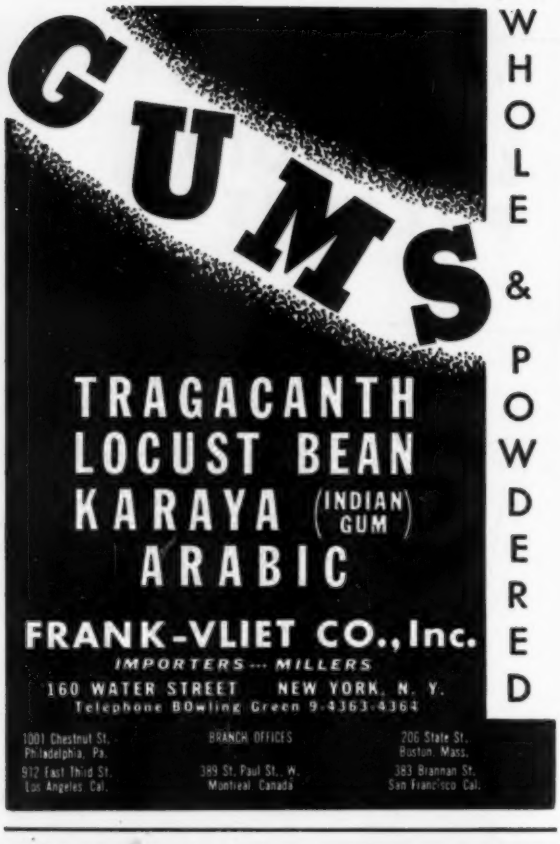

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A typical liquid preparation, suggested by Rackemann,[9] consists of:

Ephedrine sulfate	0.75 Gm.
Aromatic elixir, to make	120.00 cc.

One teaspoonful of this mixture in water is given after supper and is repeated once during the night if necessary.

Since ephedrine is prone to cause wakefulness, especially in children, and because of its exciting effects on the nervous system, the drug is frequently combined with a sedative such as a barbiturate.[5, 6, 17] Often these two drugs are combined with other useful agents as in the following example:

Ephedrine sulfate	0.60 Gm.
Phenobarbitol	0.36 Gm.
Potassium iodide	4.00 Gm.
Calcium lactate	4.00 Gm.

This is divided into 24 capsules; one capsule being given three times a day before meals, and two before an impending attack.

Brown[33] has developed a medication which he found highly effective in patients with moderate and mild asthmatic symptoms. Each capsule, later made up in special enteric coated pills, contained:

Ephedrine sulfate	½ grain
Sodium phenobarbital	½ grain
Theophylline sodium acetate	3 grains

Sometimes acetylsalicylic acid is prescribed alone or in combination with other drugs.[4, 6] although aspirin often produces good results, many authorities[2, 6, 9] stress the importance of caution in its use, since many asthmatic patients are sensitive to this and related compounds. As Spain[17] remarks, such agents may aggravate an asthmatic tendency or even precipitate an attack.

Opiates, such as morphine, were formerly widely employed in the treatment of asthma, but because of their inherent dangers, modern workers feel that the use of such drugs should be much more restricted and employed only when other measures fail.[2, 5, 9, 11] Recently in comparing the new synthetic analgesic, Demerol, with morphine, Batterman and Himmelsbach[33] pointed out that this morphine substitute was useful in cases where the natural opiate is contraindicated. Thus an acute attack could be relieved by the subcutaneous injection of Demerol in a dosage far below that required to produce analgesic or sedation.

Because psychic factors loom large in asthmatic individuals, sedative preparations find frequent use to help secure rest and comfort for the patient. Barbiturates, bromides, codeine, paraldehyde and chloral hydrate have all been suggested and prescribed. For the nervous patient, the following preparation,[2] to be given in doses of two teaspoonfuls in milk after meals or at bedtime as required, is useful for controlling restlessness, insomnia and dyspnea:

Chloral hydrate	6.0 Gm.
Potassium bromide	12.0 Gm.
Water	15.0 cc.
Syrup of glycyrrhiza, to make	120.0 cc.

Expectorants have a valuable role in asthma and act by encouraging drainage and their use is of benefit during winter as prophylactic against attacks. Of the several drugs that may be employed, iodides are generally considered the most useful.[2, 5] Under the influence of these salts, the sputum becomes thinner and can be raised with greater ease. In addition, the coughing becomes more productive and diminishes in severity.[9] Although the official solution of potassium iodide may be employed, patients generally prefer a more flavorful preparation, such as the following "Asthma Cough Mixture" used at the New Haven Hospital,[24] and which is generally given in one teaspoonful doses:

Potassium iodide	4.0 parts
Tincture of belladonna	4.0 parts
Fluid extract of licorice	15.0 parts
Glycerine	15.0 parts
Distilled water, to make	90.0 parts

Although vitamins are of general value in maintaining the health of the asthmatic, they have not found much specific application in treating this condition. A recent exception is the use of nicotinic acid, which Melton[35] found useful in diminishing the severity and frequency of attacks when given over long periods of time. It is especially useful in cases that are becoming refractory to adrenalin or ephedrine. Definite improvement was obtained in sixteen of nineteen cases treated with this member of the vitamin B complex.

Inhalation therapy holds a prominent place in the prophylaxis and treatment of asthma. Oxygen and oxygen-helium mixtures often serve to relieve severe paroxysms and help to remove the tendency to epinephrine-fastness.

A now well-established procedure for the prevention and relief of asthmatic attacks is the inhalation of 1:100 solution of epinephrine in the form of a fine spray or vapor.[2, 4, 6, 36, 37] In many instances the use of such solutions has decreased the need of adrenalin injections for the relief of moderate symptoms.[5] From time to time, workers have modified this spray so as to secure a better mist, to help obviate some of the unpleasant side effects, to secure a more rounded combination or to improve stability. In England, Cole[38] suggested the following solution as valuable for the spray treatment:

Methyl atropine nitrate or bromide	0.14 per cent
Papaverine	0.08 per cent
Sodium nitrate	0.08 per cent
Adrenalin	0.05 per cent
Lactic acid	2.50 per cent
Glycerine	10.00 per cent
Distilled water to make	100.00 per cent

Cooke[6] points out that when the 1:100 epinephrine spray is combined with 10 to 20 per cent of glycerine a

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better mist is formed. More recently, Lockey[39] found that glycerine additions tend to offset some of the undesired adrenalin effects. By the use of a preparation, such as is given below, irritation and dryness of the throat were greatly diminished, longer periods of relief were obtained and there was more frequent and more productive expectoration:

Suprarenalin crystals	10.0 Gm.
Sodium chloride	9.0 Gm.
Chlorobutanol	5.0 Gm.
Sodium bisulfite	0.9 Gm.
Hydrochloric acid (10% U.S.P.)	20.0 cc.
Glycerine	50.0 cc.
Distilled water, to make	1000.0 cc.

A well rounded, physiologically stable preparation that does not deteriorate on standing as described a few months ago by Wilcox,[40] and consists of:

Atropine sulfate	0.10 Gm.
Sol. Adrenalin hydrochloride (1:100)	12.50 cc.
Ephedrine hydrochloride	0.50 Gm.
Hyoscine hydrobromide	0.025 Gm.
Chlorbutol	0.25 Gm.
Glycerine	12.50 Gm.
Distilled water, to make	100.00 cc.

As indicated in the above formula, ephedrine is also useful in the sprays employed in treating milder cases. According to Rackemann,[9] a good spray consists of 1 to 2 per cent of ephedrine alkaloid in flavored liquid petrolatum. In this connection he mentions the usefulness of the official (*National Formulary*) preparations, ephedrine spray and compound ephedrine spray, which may be used in an atomizer or drop-wise.

Since recent work indicates a possible element of danger in the long-continued use of oily preparations, especially in children, aqueous sprays are of definite interest. Such solutions have a quicker, more effective action, but are not as persistent. An isotonic solution of ephedrine with dextrose, which may be used as a nasal spray or as drops is suggested by Lascoff[41] as follows:

Ephedrine sulfate	0.50 part
Sodium chloride	0.25 part
Dextrose	1.20 parts
Chlorobutanol	0.25 part
Distilled water, to make	50.00 parts

Old-fashioned though they may seem, smokes, especially those which yield atropine, still find a place in treating asthma.[2, 4, 9, 17] Indeed, Cohen and Rudolf[11] feel that the beneficial effects of atropine are best obtained by inhalation, and this in turn is most advantageously achieved by inhaling the smoke produced by burning powder composed of:

Powdered stramonium	1.0 Gm.
Potassium nitrate	2.0 Gm.

According to these authors, most of the asthma cigarettes and powders on the market are similar to the

formula given, but some contain tobacco, lobelia, anise or other volatile substance.

In the cases where such measures are effective, the inhalation of these smokes is shortly followed by coughing and expectoration of the mucous plugs which were obstructing the bronchial tree. The chief objection to such treatment is the danger of fire, as when the powder is used indoors, or the odor, which some find objectionable.

Of course many other measures have been used in the treatment of asthma, such as the administration of potassium salts,[42] the use of phenytoin sodium (Dilantin),[43] or the injection of ether in oil.[44] Some of these remedies are of doubtful value, while others are in the preliminary stages of investigation.

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Developments in Cosmetics

(Continued from page 157)

accompanied by the generation of heat. By proper control in formulation, it was possible to control the amount of heat produced and also the period of time over which it was generated.

Attempts have been made to obtain the same effects insofar as the action on the hair was concerned by the use of straight chemical degradation without the accompanying heat. None of these "cold waves" came into general use until after the war started and most exothermic chemicals became critical materials. Beauty shop suppliers began to concentrate on methods for "cold wave" application and at present, I am informed

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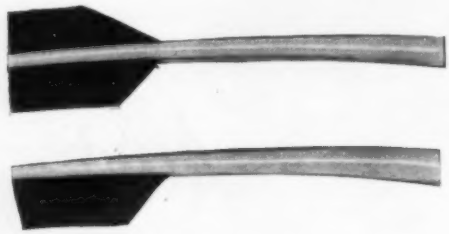

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that Beauty Shop operators are very enthusiastic about its use.

Salts of thioglycolic acid have come into use within the past ten years as depilating materials. Depilation by the means of these agents is due to their properties as reducing agents in common with other mercapto compounds. They were popular in this regard because there was no accompanying odor of hydrogen sulfide, identified with the use of the metallic sulfide depilatories. In the depilatory the thioglycolate is allowed to react with the hair molecules until the degration has caused the hair to split from the root. However, it is possible to control the reaction so that it will not proceed beyond the point at which the hair begins to curl. This is essentially the principle of the cold wave. Thioglycolic acid salts are not the only substances used for the purpose but the theory is pretty much the same.

I have been informed that this method of hair waving is in many respects superior to the older heat treatments, because the hair is softer as a result and the operator is more apt to be able to avoid the straw like appearance which is sometimes produced, particularly on fine thin hair.

This new method promises from all present indications to not only keep going after the war but to supersede the present one completely.

None of the developments mentioned in this article came as a result of "pulling a rabbit out of a hat." It represents long hours of painstaking study and experimental work. When one considers that most manufacturers expect a shelf life of at least a year from their products, a proper time interval is necessary for testing before marketing. There have been cases where changes have been made in too great a hurry and with bad results, but when one considers the little warning given most manufacturers before a necessary raw material was taken away from them, I think they did a good job. The slogan "The difficult we do today, the impossible takes a bit longer," may aptly be applied to the cosmetic manufacturer.

Cosmetics and Dermatitis

(Continued from page 162)

tween 5,000 to 10,000 packages of the cosmetic are to be sold. If no cases of dermatitis are reported during the trial sale then the cosmetic is safe. If cases are reported during the trial sale the manufacturer should employ a competent dermatologist to investigate them and determine the actual cause. The continued sale of the cosmetic or its withdrawal from the market should depend on such an investigation.

If cosmetic manufacturers adopt the trial procedures advised above before placing new cosmetic formulas on the market they will avoid harming the public and the cosmetic industry. These manufacturers of cosmetics who adopt the trial procedures can appraise the public of the fact in their advertising and may increase the sales of their products. They will also have valuable

testimony at their disposal to prove that the occasional case of dermatitis which may occur from the use of the cosmetic is due to the peculiar sensitivity of the plaintiff and not to the cosmetic, for there are no substances to which some one may not become hypersensitive.

Alcohol Still Tight

(*Continued from page 163*)

250,000,000 gallons of blackstrap during 1944. The Foreign Economic Administration which is negotiating for the Cuban molasses, however, declares that 1944 output will total only 180,000,000 gallons of blackstrap.

The big problem for the United States negotiators, who will be headed by Sidney H. Scheuer, Executive Director of the Supplies Branch of the Foreign Economic Administration, and who will include representatives of the Defense Supplies Corporation and the War Food Administration, is to secure a large percentage of Cuban molasses for American alcohol producers.

It is pointed out that the problem is complicated by the important Cuban requirements for alcohol for motor fuel uses and by the higher profits which can be made by distilling the molasses into potable cane spirits, rums and gins.

The FEA has indicated that any hopes of acquiring that portion of the alcohol used domestically in Cuba for fuel purposes is merely "wishful thinking." The tight shipping situation would preclude the transportation of substitute fuels to the island even if they were available.

It was also learned that the War Production Board is very loathe to apply stringent economic sanctions or embargoes upon Cuba with the idea of compelling Cuban producers to ship all their exportable output to us for industrial alcohol purposes rather than in the form of much preferred potable spirits. Not only would such a step raise delicate international political complications, but it would unquestionably accentuate the current very substantial bootlegging of potable spirits to this country from Cuba by means of small craft.

With regard to the renewed meetings between this country and Cuba for the purchase by us of the blackstrap, it is the general feeling that the negotiations will be resumed in Havana, as a courtesy gesture to the Cubans who had come to this country in December and had successfully completed negotiations for the sale of 800,000 gallons of invert molasses to the United States.

However, it was disclosed that the State Department had not yet made any arrangements for the prompt resumption of the hearings, although all interested parties had no doubts that the State Department would shortly make an announcement on the matter.

Insofar as price is concerned, it is felt in FEA circles that some negotiated agreement would not be sufficient to arrange which would permit a price somewhat below

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that being received from the sale of potable distilled spirits and that previously offered by this country for industrial alcohol blackstrap.

This may be facilitated, it is felt, by the action of the Office of Price Administration, which is reported to be considering the advisability of reducing the ceiling price paid by American importers for Cuban spirits, rums and gins. However, it is not expected that the FEA will urge this step except as a final measure, should all compromise solutions be rejected by the Cubans.

THIRD N. F. VII SUPPLEMENT

Bound copies of the Third Supplement to N. F. VII, with ten pages of new monographs and revisions will soon be available. Propylene glycol, cinnamic aldehyde, eugenol, and synthetic papaverine hydrochloride are some of the products which are now official. Standards are given for propylene glycol as a substitute for glycerine. It is authorized in twenty-eight preparations. It is ironic that completion of the difficult work of developing on official substitute for glycerin comes at a time when glycerin supplies are much easier. However, temporary shortages of glycerin may occur, and the Revision Committee believes that propylene glycol will find a place even when unlimited glycerin supplies are available.

Preparations containing propylene glycol are as satisfactory as those containing glycerin, although the body and viscosity will differ. The slightly acrid taste of propylene glycolis usually masked by other ingredients in a preparation, and improved methods of manufacturing the glycol is expected to eliminate it entirely at a future time.

Replacement of oil of cinnamon by cinnamaldehyde and of oil of clove by eugenol are allowed because of the shortage of spices and certain essential oils. Little change will be noticed in preparations since the synthetic cinnamic aldehyde is identical with the active ingredient in natural oil of cinnamon. Synthetic eugenol is in the same category since oil of clove distilled from the dried flower buds of the clove tree contains at least 82 per cent of eugenol.

Since imports of official arnica have nearly ceased, related species which grow in our own west central states are now sanctioned. Synthetic papaverine hydrochloride has been fully established as equivalent to its natural counterpart from Asiatic opium. Because of the shortage of lactose, due principally to its needs for the production of penicillin, a mixture of sucrose and starch is allowed as a diluent for pepsin.

SELLING AGREEMENTS

The continuation of a seller's market in the cosmetic industry, and the appeals of customers for merchandise prompts an inquiry into the question of whether tying agreements, exclusive agencies, and sales to particular classes and individual concerns are legal, says Hugo Mock, counsel for the Toilet Goods Association.

According to Mr. Mock, tying agreements are legal, and a seller can, for example, require that a retailer shall buy one gross of face powder in order to procure six bottles of perfume of the same brand. However, this requirement must apply equally to all customers.

Exclusive agencies, or the selection of one retailer in one town is legal, but the manufacturer must not have an agreement that requires that the retail agent exclude competitive merchandise from his shelves.

With reference to a manufacturer arbitrarily discontinuing to sell an old customer on the plea of lack of merchandise to satisfy all customers, Mr. Mock says:

"The doctrine of U. S. vs. Colgate & Company, 250 U. S. 300, and reaffirmed in many other cases, of the right of the seller to choose his customers has not been changed. It should be borne in mind, however, that the Clayton Act as amended provides in Section 5, 'Unfair methods of competition in commerce and unfair or deceptive acts or practices in commerce, are hereby declared unlawful.' The term 'Unfair practices in commerce' has never been and can not be exactly defined, but has tremendous scope, and might some day provide the test for a judicial decision penalizing a seller for refusing to sell a particular customer, provided the judicial mind concluded that such a practice was unfair or discriminatory."

Keeping Posted

(Continued from page 153)

facturer. The physician and pharmacist must be able to depend on the labeling statements of such products, particularly with regard to potency and identity. The integrity of many manufacturers justifies this trust; if such trust is betrayed there exist punitive legal restrictions. There can be no positive guaranty that error may not occur in the processes involved in the transformation of raw materials into finished medicinal products. Careful control measures and constant vigilance by the manufacturer will minimize dangers inherent in false identity, low purity or wide variation in potency of products employed to maintain or restore health. The personnel and physical equipment of all manufacturing organizations in the United States are under constant stress. Manufacturers of drugs and medicinals have not been exempt from the loss of trained workers and from the necessity for full utilization of all available machinery in their tremendous job of providing adequate supplies of medicines for the Armed Forces and for the public. Nevertheless manufacturers of pharmaceuticals need to scrutinize and steadily improve their methods of product control."

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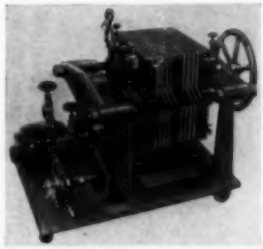

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